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SAFETY EDUCATION IN THE ELEMENTARY SCHOOL

A TECHNIQUE FOR DEVELOPING SUBJECT MATTER

By

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FOREWORD

Three graduate fellowships in Safety Education were maintained by the National Bureau of Casualty and Surety Underwriters during the academic year, 1925-1926, two at the University of Chicago and one at Columbia University. This book is a thesis which Miss Ruth Streitz, the holder of the Columbia Fellowship, submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Columbia University. Miss Streitz's problem was to build up in an analytic way a course of study to fit the actual needs of a particular community. It is believed that the general method as well as most of the actual subject matter will prove to be of value to anyone who is working on the problem of organizing instruction in safety education.

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CHAPTER I

INTRODUCTION

Need of a program of education for combating the hazards of modern civilization. Modern civilization has brought us numerous and varied hazards without a corresponding knowledge which is sufficient to combat the increase of accidents caused by them. We need intelligent understanding of these hazards and also the development of such habits and attitudes that the majority of these accidents will be eliminated. To accomplish this end requires a program of education which utilizes all the techniques of instruction provided by our modern educational theory and which is established throughout the school so well that the child from his first day of entrance is made conscious of his personal responsibility for safety, not only for himself, but for others.

Before proper learning situations are set up which are intended to aid in the development of safety habits and safety attitudes, attention should be directed to some of the hazards which confront us at the present time. The accident situation for the country as a whole is pictured by means of diagrams and tables. The facts presented are based upon reports made to the National Safety Council from July 1, 1925, to June 30, 1926, and represent a population of more than 37,000,000, or approximately one-third of the total of the United States.[1]

The three major classifications for accident statistics, exclusive of industrial accidents, are (1) automobile, (2) public accidents other than motor vehicle, and (3) home accidents. The distribution by percentages for each group is shown in Figure I. It is noted that 68 per cent of the persons killed in automobile accidents were pedestrians, 9.4 per cent were killed in collisions between motor vehicles, etc.

Thirty per cent of the public accidents other than those involving motor vehicles include the street cars, railroads, and other

[1] The Toll of Public Accidents. National Safety Council. Chicago, 1926. pp. 5-10.

vehicles; 22.7 per cent were drowned, 10.6 per cent were killed accidentally by firearms.

The home accident statistics show falls to account for 29.8 per cent of the total home fatalities, scalds and burns for 21.4 per cent, asphyxiation or suffocation for 20.8 per cent. More complete data concerning the type of accident, together with the age groups of persons killed or injured, will be found in Table I.

Examination of the graph designated as Figure II, reveals the circumstances attending the occurrence of accidents. The first section shows what the motorists were doing at the time of accident, and the second section shows what pedestrians were doing which contributed to the accident situation. At the right of the second section is shown the percentage of each item which resulted fatally. It will be noticed that 9 per cent of the accidents reported as "riding or hitching vehicles" resulted fatally, and that "child under 15—in street—not at intersection," contributed to more accidents to pedestrians than any other single classification.

The social and economic significance of the foregoing data clearly indicates not only the seriousness of the accident problem but also the need for immediate steps to be taken if the increasing number of accidents is to be checked. The accomplishment of this aim requires not only recognition of the problem but also a satisfactory means whereby successful attainment may be realized.

It is assumed that education is one way of combating the increasing number of accidents, especially to children of school age. It is also assumed that considerable material regarding safety education is already included in courses of study in the traditional school subjects, but is not so designated. This means that safety education is implicit in a variety of topics and is not separate unto itself. However, even though safety topics are included in other subject-matter fields, there is no assurance that in any one place the various features of safety are covered. For example, one course may be strong in hygiene and weak in civics and yet both are supposed to include safety. The need, therefore, is for an organized arrangement of safety education materials which may, or may not, imply a separate subject. Investigations show that certain hazards are common to many communities. In so far as this is true, a common content will serve. Probably the most important present need is a technique which will enable local com-

munities to develop the content of safety education which is most essential for them in order to combat the hazards of their own situations.

Purpose of the study reported in this monograph. This study is an attempt to show how the content of safety education materials may be developed for a specific situation by utilizing one school district as the unit for investigation. To accomplish this purpose, answers to the following questions were sought:

1. What are the hazards which are common to the age in which we live and from which we must seek protection?
2. What are the subject-matter materials or safety education items which will insure desirable and immediate outcomes through the proper functioning of habits?
3. What are the sources from which safety education materials may be drawn?

Method of securing data. In order to determine the extent to which safety education is already a part of the elementary school curriculum, information was sought in the following ways:

1. A question blank[1] was sent to 780 superintendents of instruction in cities of 10,000 or over.
2. All available courses of study in safety education were tabulated and analyzed.
3. A number of courses in the accepted school subjects, selected by a random sampling, were analyzed to determine the frequency and range of the safety topics included.
4. Observations of safety teachings in three school systems were made by the writer and careful notes were taken on the lessons observed.

Social data which would indicate the need for safety education, or which would contribute to a better understanding of the problems were secured as follows:

1. An examination of educational and economic literature, newspapers, and current magazines was made in order to see if the attitude toward safety education had changed in any way.

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[1] This questionnaire is reproduced on page 10.

2. Statistical reports showing the type and frequency of classified accidents for the country were examined in order to note the prevalence of certain types of accidents.

Specific circumstances which are peculiar to the school situation studied were ascertained by:

1. Inspection of maps and records.
2. Data secured from organized agencies such as Russell Sage Foundation and the New York City Police Department.
3. Interviews with members of these agencies and with teachers, school nurses, and social workers in order to substantiate the writer's personal observations concerning the school environment.
4. Additional information obtained from a survey of pupil experiences concerning accidents which had happened to the pupils from the fourth to the eighth grades in the school studied.

Materials from which units of safety education were drawn were found in courses of study, and in textbooks in General Science, Civics, and Home Economics. Suggestions as to methods of teaching were adapted from some of the newer courses of study in other subject-matter fields.

CHAPTER II

THE EDUCATIONAL VALIDITY OF SAFETY WORK IN THE SCHOOLS

Function of the school in regard to safety education. The school has been defined as a place where children are sent to substitute for their instinctive impulses habits which are gradually developed in conformity with social institutions.[1] When life was relatively simple, the individual could rely upon his natural impulses; but today when life is becoming exceedingly complex, he needs something to supplement these natural impulses. Especially is this true in meeting certain dangerous situations. At one time man acted instinctively and could protect himself either by fighting or fleeing. Today neither way enables him to meet the mechanical forces which have supplanted the dangers of the past. There is need then for a more effective means of combating the dangers which have accompanied advancing civilization.

Various factors have been operative in the development of civilization. Communication and transportation may be mentioned as two social factors which have affected human habits and human education. Books, magazines, newspapers, letters, telegraph, telephone, and wireless have brought the world close together. Transportation facilities have never been so numerous nor so extensively used. With each new development modern society has found accompanying problems which when solved will make for greater efficiency and in turn will probably create new problems.

An example of a changed attitude on the part of the people is shown in the dependence upon ability to read as a safeguard. Public signs now appear on every side, on the assumption that all who use the street are able to follow written or printed directions. The man who cannot read can hardly take care of himself.[2] Such a state of affairs would have been hard to imagine

[1] Judd, Charles H. "Psychology as a Basis for Educational Method." Elementary School Journal, 23:1922-1923. page 104.

[2] Judd, Charles H. "Relation of School Expansion to Reading." Elementary School Journal. 23:1922-1923. page 253.

fifty years ago. Picture the public highway of 1880 with its narrow streets, dirt roads, vehicles drawn by horses or mules, few pedestrians to consider, and so forth. Crossing the street in 1880 was no problem. Probably thirty horse-drawn vehicles passed a given spot in the space of two hours, while actual counts made for the same length of time in 1922 revealed 3,361 vehicles of all kinds passing a given spot. Of this number 2,932 were automobiles, 334 were wagons, and 95 were street cars.[1] The reading of signs was not so necessary in 1880 when communities were small and every one knew every one else personally. To go to see a friend was a matter of riding or walking directly to his home. Today one depends upon subways, street cars, carefully marked streets, and the policeman's whistle as a signal to cross the street.

The complexity of life today has brought increasingly complicated problems which are in need of solution. The vague feeling that something must be done has as always placed the burden on the school. The school as a social institution has endeavored to meet the added responsibilities and to make the necessary adjustments. Not infrequently the demands upon the school are made by outside agencies through the organized efforts of certain public spirited individuals. Much advertising is resorted to and evidences of need are furnished by statistical reports. No doubt such means have aided greatly in awakening the public to a greater realization of its responsibilities.

Such work cannot be underestimated but it must be regarded in its true light. Periodic and spasmodic drives on the schools with a week given over to a particular topic such as fire prevention, campaigns for health or safety, concentrated attention and action for thrift, although introduced with the best intentions in the world, will not produce lasting effects because the methods are not truly educative though they are ameliorative. The enthusiasm generated by organized agencies has attracted attention first to one needed subject and then to another which, in their opinion, should be introduced so as to enable the schools to meet more adequately the present day needs of society.

The willingness of the school to respond to these suggestions and the zeal of the public spirited individuals has led to the intro-

[1] Beard, Harriet E., Safety First for Home and School, Macmillan Co., New York, 1924. page 121-122.

duction of additional subjects into the curriculum in a surprising way. The somewhat spectacular methods, while attracting attention, have often been quite inadequate in maintaining enthusiasm and interest, and as a result definite periods of reaction have set in. School principals and teachers in discussing health or safety work have frankly admitted that the drive on health or safety of a year or a month ago has ended and that only incidental teaching of safety is undertaken. This characteristic slump after a period of intense interest implies the inadequacy of method.

Teaching procedures for safety education. The solution lies in utilizing the same procedures in safety education which are used in other learning situations, namely the application of the fundamental principles of educational psychology to the whole problem of safety. The safety education materials must be psychologically and pedagogically sound and adapted to the needs, interests and capacities of the learner. Because of the relative newness of the field of safety education, materials which have been tested and tried are not available. However, experiments in other fields of learning furnish records dealing with certain fundamental generalizations which apply to all learning situations and which may be taken over and applied to the work of safety education.

To accord safety a place in the schools requires no justification. The need for safety education is apparent and the recognition of safety as one of the responsibilities of the educational program requires only that its means be justified and its outcomes stated. These outcomes to be expected in safety are those accepted in other branches of education and may be measured in terms of the following: safety habits; safety knowledge; safety attitudes.

Safety habits. The formation of desirable habits of safety like the formation of habits in general is based upon the principles of educational psychology and concerns itself more with the nature of the learner than with the habit to be learned. Before effective habits of safety may be formed, it is well for the teacher to examine the present status of the learner with respect to safety. The learner may be beginning certain safety habits, breaking down wrong habits, or substituting one habit for another. Individuals vary in this respect. In every class room some children have safety habits fairly well inculcated as a result of home training or

of other agencies outside the home; some will be initiating safety habits, some will be attempting to substitute one habit for another; and all must be met on their own level, namely, that of habits, desirable and undesirable, which are fairly well formed. Checks should be constantly made of habits which are formed in order that procedures may be better adapted to the learner and the right kind of learning take place.[1]

Different experiences furnished by different backgrounds must also be considered in effective safety habit formation. Even though some children are well instructed in the most necessary of safety principles, habits do not function unless exercised. It is therefore necessary to provide exercise in such a way that practice resembles life situations and refers to life situations. The habits which are to function in life are those which the child relates to his own welfare and learns in the way they are to function in actual experiences.

Effective habits are best formed by distributed practice.[2] Habits once learned sufficiently to function when needed may be established more permanently if emphasis is directed toward them at different intervals. Therefore habits are not initiated by drives and campaigns. This realization again indicates the need for the application of psychological principles to the field of safety education. In aiding his pupils to form safety habits, the teacher should apply the principles of habit formation such as giving the learner a definite idea of the nature of the habit, informing him of progress and of errors and so forth. Instruction should be specific. For example, the general admonition to exercise care in crossing the street is not definite enough to insure results, as the child is not acquainted with the particular things he is to do. However, simple directions and explanations such as "look to the left, walk to the middle of the street, look to the right and if the way is clear walk quickly to the sidewalk" produce better results. Positive methods of instruction and right suggestions as to what to do make for habits of intelligent caution and should be used as substitutes for the fear motives which have been utilized in the past and which have functioned so inadequately.

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[1] Zirbes, Laura. "Psychology Critique of Health Education Materials." Unpublished material, 1926.

[2] Gates, Arthur I. "Psychology for Students of Education." The Macmillan Company, New York City, 1923. page 286-7.

Safety knowledge. Knowledge has been defined as organized experience. To enable the child to acquire safety knowledge, experiences which are of vital and immediate interest to him must be selected. When the experiences are definite, concrete, and form a part of the child's life, he is able to organize his thinking and to make generalizations and further applications of the knowledge which he has acquired. Facts learned in isolation have often failed to function when needed because they were not associated in any way with the child's interests and activities.

Associations of others cannot be taken over by the child; he must form his own associations out of his experience and observation and thus construct his thinking. The best indices of the anticipated success of safety knowledge may be found in his present day usage of his safety knowledge. Even though his efforts are crude, the child who applies his knowledge in the making of a safety booklet is living an experience which is vital to him and is thus demonstrating his ability to organize his experiences.

Safety attitudes. Favorable responses imply satisfying experiences on the part of the learner. These responses furthermore may be conditioned by the attitude or mind set of the learner.[1] When a favorable attitude on the part of the pupil is secured toward various aspects of school life, successful learning is assured as far as the pupil has the ability to learn.[2]

Definite attitudes are often formed early in life and may affect all future learnings. If the experiences are pleasurable they lead to practice and make more practice profitable. Understanding this principle, the teacher in endeavoring to build up proper safety attitudes will provide for activities which to the child are pleasurable. In order to develop right attitudes toward safety education, it is necessary to consider both the immediate and the remote outcomes and to make provisions for them at every step. If every experience is accompanied by some feeling of pleasure or satisfaction, immediate outcomes are more easily realized because learning is more effective. The remote outcomes to be expected may be considered as deferred values and should result in abiding interests and appreciation of the value of safety education.

[1] Thorndike, Edward L. "Educational Psychology." Vol. II. Teachers College, Columbia University, New York, 1913. page 13.

[2] Pyle, W. H. "The Psychology of Learning" Warwick and York, Baltimore, 1921. page 58.

CHAPTER III

CURRENT PRACTICE IN SAFETY EDUCATION AS SHOWN BY ANALYSIS OF QUESTIONNAIRE IN SAFETY EDUCATION

In order to obtain information concerning the extent to which safety education prevails in the schools of the United States the following questionnaire was sent to 780 superintendents of schools in cities of 10,000 population and over, scattered over a wide area of the country.

THE QUESTIONNAIRE*

City..... State..... Date.....

Superintendent..... This reply by.....

1. Is safety instruction given in your elementary schools?
   Yes ( ) No ( )
   If so,
   A. Has it been introduced voluntarily ( ) or because required by law ( )?
   B. Check the method or methods used in presentation:
      (1) Made a portion of regular school subjects ( )
      (2) Taught as separate subject ( )
      (3) Carried on by school organization, like Junior Safety Councils, Civic Clubs, etc. ( )
      What grades included in such organizations (.....)
2. Is safety instruction given in your Junior high schools?
   Yes ( ) No ( )
   If so, which of the methods just cited is used? (.....)
3. Is safety taught in your Senior high schools? Yes ( ) No ( )
   If so, which of the methods just cited is used? (.....)
4. Add any remarks that will make your replies clearer .....

.....

.....

5. What is your general opinion of safety instruction, with respect to its importance and with respect to the results secured in your schools? Comment will be welcomed.

.....

*The questionnaire was prepared by the National Society for the Study of Education and incorporated in the Yearbook on "The Present Status of Safety Education," February, 1926, page 96. The writer is responsible only for tabulating and analyzing the results.

Statistical results. The 312 replies that were received were tabulated and analyzed by the writer with the following results:

1. Is safety instruction given in your elementary schools? Yes, 293; No, 19.
   A. Has it been introduced voluntarily? Yes, 275; By law, 14.
   B. Check the method used in presentation.
      (1) Made a portion of the regular school subjects, 206.
      (2) Taught as a separate subject, 82.
      (3) Carried on by school organizations like the Junior Safety Council, Civic Clubs, etc., 125.
      What grades included in such organization?

Grades 1-8	121
Grades 1-6	43
Grades 3-8	21
Grades 6-8	23
Total	208

2. Is safety instruction given in your junior high schools? Yes, 215.
   If so, which of the methods just cited is used?
   (1) Made a portion of the regular school subjects, 129.
   (2) Taught as a separate subject, 27.
   (3) Carried on by school organizations like Junior Safety Councils, 64.
3. Is safety taught in your senior high schools? Yes, 143.
   If so, which of the methods just cited is used?
   (1) Made a portion of the regular school subjects, 85.
   (2) Taught as a separate subject, 17.
   (3) Carried on by school organizations like Junior Safety Councils, 37.

COMMENTS UPON RESULTS

The teaching of safety in the elementary schools. In answer to the question: "Is safety instruction given in the elementary schools?" 293 replied in the affirmative and 19 in the negative. It is evident that this question was not interpreted by all alike as a number reported that safety instruction was not given in their schools, while civics, health or hygiene was taught. Others

stated that a specific place was not accorded safety in their already over-crowded curriculum, but that there was some incidental teaching of safety, and so forth. Though it may be assumed that nearly all of the schools are teaching some phase of safety, the replies to the questions have been reported exactly as they were received.

Introduction of safety education. According to the replies received, safety education has been introduced voluntarily in 275 schools, and, because required by law, in 14. Here again, the data are not exact. In the same state where safety is required by law, reports also indicate that it has been introduced voluntarily. Others stated that they had introduced safety before the law was enacted and therefore answered both questions in the affirmative.

Methods used in teaching safety. Of the three possible answers relating to the method of teaching safety education in the elementary schools, 206 replied that it was made a portion of their regular school subjects—that is, it was incorporated in their language, civics, health, and other subjects; 82 reported that it was taught as a separate subject, on a schedule, like any other subject; and 125 indicated that their safety work was carried on by school organizations, such as the Junior Safety Council, civics clubs, and so forth. Of this last group, 81 also reported a combination of this method with that of inclusion in the regular school subject, and 29 that it was combined with the separate teaching of the subject. "What grades included in such organization" was misunderstood. By the arrangement of the question, it is not clear whether this applies to grades in which the school organizations carry on safety work or to the grades in which safety work is organized. Judging from the replies, the majority of superintendents thought the question related to grades where safety is taught. This accounts for the apparent discrepancy in the tabulations under B (3) of the statistical results. Where the reply was "all grades," it was interpreted as meaning the eight grades of the elementary school, not including kindergartens unless so specified. Only 17 state plainly that the work is included in the kindergarten.

Safety education in the junior high school. Safety education is a part of the junior high school instruction in 215 school systems. The method of teaching seems to vary and the replies are confusing, as 129 report that it is taught as a portion of the regular

school subjects; 27, as a separate subject; and 64 state that the work is carried on by various school organizations, and by means of assembly periods, lectures, talks and so forth.

Safety education in the senior high school. The greatest variation is shown in the teaching of safety in the senior high school. The replies indicate that safety is taught in 143 school systems. Of this number 85 teach it as a portion of the regular subjects; 17 as a regular subject; 37 report that it is carried on by various school organizations; 8 that it is taught incidentally —that is, through talks, lectures, assembly periods, and so forth.

General opinion of safety education. The opinions or comments regarding the importance of safety instruction and the results secured in the schools were entirely gratuitous. An attempt was made to classify the comments under the following headings: (1) The need of safety education; (2) The value of safety education; (3) Suggestions as to how safety education should be taught; and (4) The results of having safety education taught in the schools. Many of the question blanks were returned without comment.

(1) *The need.* There is much overlapping in the replies but in a general way the following phrases expressed the need for safety education. "A good thing," 10; "Valuable," 14; "Essential," 13; "Necessary," 27; "Important," 73; "Worthwhile," 15; "Want it," 20; "Helpful," 2.

(2) *The value.* Safety education was thought by 20 to produce better habits; by 17 to aid in better attitude toward law and the rights of others, while 4 thought safety gave an excellent opportunity for student participation in the activities of the school and provided a foundation for club work. One said that the work was especially valuable to the foreign born and 8 reported that the work was very good as carried on in the lower grades but did not mention the work in the upper grades.

(3) *Suggestions for teaching.* The suggestions for teaching were made voluntarily by many of the superintendents. That the subject of safety should receive regular instruction in the public school was the opinion voiced by 29; that it should be taught, but no mention made as to how it should be taught, by 16; taught with other subjects, by 8; introduced by means of talks, by 5; in

auditorium or opening exercise periods, by 3; in connection with motor clubs and safety councils, by 15. Four replied saying that while safety education is advocated the work did not carry over, and 4 do not want the teaching required by law. Arrangements are being made in 19 school systems to extend their present plans for the teaching of safety education.

(4) *Results achieved.* Opinions expressed by 72 superintendents showed that they believed that the time and energy devoted to safety instruction were justified in the results obtained. Five admitted that they could not produce statistics as proof of their opinions, but were confident that safety instruction had produced results in their city. A few were pessimists; one said, "Results in school are negative, owing to the practice of the public;" another regarded the work as "very important, but depends entirely upon the teacher or principal," and so forth.

The following quotations were selected at random and serve to illustrate some of the reactions of school administrators toward safety education. If opposing views are held by some of the other school men they were not expressed.

(1) "Important but need more time for regular school subjects."

(2) "We want safety education but where shall we put it?"

(3) "It is a good thing but how much gets over into conduct?"

(4) "Safety instruction should be in every school."

(5) "My observation leads me to believe that safety instruction in the public schools is very effective. As I observe the conduct of children on the streets and highways, I am sure that much good has been accomplished."

(6) "Safety in this age is a vital necessity in our schools. These school systems that neglect it are derelict of performing their duty to the public and to the children."

(7) "It is important and is entitled to a fair share of school time."

(8) "I believe that traffic in our cities is such today that safety instruction is mandatory. Years ago we thought that crossing railroad tracks to and from school was something to be avoided. Today the average city crossing is much worse than any railroad crossing."

(9) "Important—it will be most effective only when instruction combines with formation of habits of safety, and when in some way we can check or 'inhibit,' what we may call the almost instinctive tendency of children to dash thoughtlessly into the path of possible or actual danger."

(10) "The term 'Safety First' is a misnomer, it obscures the real instruction needed which should bring such an understanding of modern dangers that safety would result. It often results in a mistaken approach by teachers—pupils are not interested in anything so pusillanimous as safety *per se.*"

(11) "Such instruction represents concrete service to the community and also adds to the value of the special subject in which it is used as a project."

(12) "We believe that safety instruction is important and that it carries over into actual life situations."

Comments upon the questionnaire. The results of the questionnaire would seem to indicate that the school men represented by the 312 replies received are in favor of the teaching of safety in some form. This fact may be accounted for in two ways. In the first place, the National Safety Council Education Division co-operated with the National Society for the Study of Education in attending to the mailing of the question blanks and in requesting that the replies be returned to their New York office. The replies received might be said to represent those who endorse the safety movement or who have had some previous contact with some of the officers. On the other hand, those not interested or not in favor of safety education probably did not return the question blank. This explanation seems to be the more plausible and is further borne out by the fact that no adverse criticisms were received.

For a preliminary overview the information secured is significant. However, had the questionnaire been tried out on a small group before being sent out over the country at large, the overlapping, and the misunderstanding of questions would have been noted and the question blank could then have been so organized as to secure greater uniformity in the responses to the different questions. As it is, there is no possible way to check items against each other.

CHAPTER IV

CURRENT PRACTICE IN SAFETY EDUCATION AS SHOWN BY ANALYSIS OF COURSES OF STUDY

COURSES OF STUDY IN SAFETY EDUCATION

Method of analyzing courses of study. In order to gain some idea of topics studied in safety education and of the grades in which the different items were taken up, twenty-two courses[1] were examined. Of this number five contained merely suggested topics and no attempt was made to assign the items to the various grades. These five courses therefore were eliminated. The remaining seventeen courses were analyzed critically and tabulated in detail. Later these tabulations by grade were summarized and supply the bases for certain statements made in succeeding chapters as well as the foundation for the proposed course of study presented in this monograph.

Classification of topics in safety education. In the seventeen courses of study the items seem to fall under the following seven headings and were so classified: (a) Safety in the home; (b) Safety on the street; (c) Safety at school; (d) Safety in play and recreation; (e) Safety in health; (f) The prevention of fires; and (g) Civic protection. The items under each general heading together with the total frequency of mention for the seventeen courses of study in safety education are given in Chapter XI.

Comments upon the courses of study. The courses of study in safety education showed considerable agreement in that home and street safety were stressed especially in the lower grades and the prevention of fires and civic protection were assigned to upper grades. Examination of the frequency of mention as well as the topics included in safety courses leads one to question if safety is a subject which can be graded. There seems to be no perceptible difference in the level of difficulty from grade to grade as judged by inspection of the topics enumerated. The safety topics seem equally important for children of all ages. If safety does not lend itself to grading, the suggestion is made that the subject be suited to the different grades by being associated with the topics in the

[1] The titles of the courses of study examined are given in Appendix.

regular school curriculum. As such subjects take on new significance and meaning, the safety topics will become richer. This appears to be the opinion held by those who believe that safety should be incorporated into the established subjects of the curriculum where there is evident relationship. In this way the treatment of safety becomes spiral rather than a series of graded lessons.

COURSES OF STUDY IN ELEMENTARY SCHOOL SUBJECTS

Determination of amount of safety education in regular subject-matter fields. In order to find out the amount of safety material contained in courses of study in the accepted school subjects, a careful examination was made of courses of study of outstanding merit.[1] The majority of courses appeared in 1923 or 1924, only one dating as far back as 1921. The courses were classified as to type and designated as city, general, separate, state, and county courses.

From this list two courses in each field were selected at random and carefully examined. Only such topics as might easily be included in a safety program were noted. These items were recorded on cards together with the name of the course and also the page number.

The following examples are taken from one of the two courses examined in each field and are for the fourth grade.

A. *Geography—Fourth Grade—City O*

"Safety First."

Teaching children safe behavior on streets and highways.

Problems and Projects.

To use rules of traffic regulations as a motive for children's safe behavior on the street.

Problems of the pupil.

To co-operate with each other in collecting clippings, pictures, and so forth, which tell or show accidents caused by carelessness in the streets and to work out rules of traffic.

[1] A list of courses of study in each subject of the elementary school was secured from the Bureau of Elementary Curriculum Research, Teachers College, Columbia University, New York City, which in their judgment are courses of outstanding merit according to their criteria. Examination of this list showed at least six courses for each subject of the elementary school curriculum.

Organization of Subject Matter.

Sixteen rules for safe behaviour obtained from pupils through questioning.

1. Always to keep to the right.
2. Do not play in the roadway.
3. Look both ways before crossing the street.
4. Do not skate on sidewalk or roadway.
5. Always obey the traffic officer's signals and commands.
6. Cross the street at the regular crossing—not in the middle of the block.
7. Never fail in leaving a car to look out for passing cars or wagons.
8. Never jump on or off a moving car.
9. Never run in front of a passing car.
10. Never "hitch on" or steal rides behind street cars or wagons.
11. Never chase a ball into the street.
12. Never touch wires at any time on the street or highway.
13. Do not play around autos or touch any of the levers.
14. Never throw banana peelings on the street.
15. When carrying an umbrella do not carry it so as to obstruct your view.
16. Never take chances.

Another fourth-grade Geography—State C., included the following topics under "Caring for the forests:" The forest ranger. High in a sighting lookout; riding along the trails; watching for forest fires; fighting forest fires; keeping the fire breaks clean; on the alert for careless campers; knowing the birds, the squirrels and other dwellers of the woodland; hardworked, needing the help of every citizen to be successful in his work; a valuable assistant to the President of the United States.

B. *History and Civics*—Fourth Grade—City L.

Making safety speeches.

Writing stories, slogans, plays.

Planning what fourth-grade children can do to make rid-

ing on street cars safe. Rules agreed upon and set forth by the class are as follows:

1. Getting on and off street cars.
2. Keeping points of umbrella down.
3. Helping other little children.
4. Kite flying—dangers of kite on telephone or electric wires.
5. Ball playing—planning so ball will not go into the street.
6. Deciding to bring before the school and community the need for greater care.
7. Obey laws about camp fires.
8. Be careful about open gas heaters.
9. Be careful about candles on Christmas tree.
10. Keep a sane Fourth of July.
11. Keep rubbish cleaned out, and so forth.
12. Never step out from behind an auto or street car.
13. Never run across the street—always walk.
14. When you are crossing the street attend to business and do not try to do something else at the same time.
15. Never attempt to cross the street in the middle of the block.
16. Always watch the traffic officer.
17. Be careful about fires.
18. Place scrub buckets, wash tubs and other receptacles containing hot water where children may not fall into them.

C. *Industrial Arts*—Fourth Grade—City S.
Lumbering.

1. Write a composition on "The way in which I can help prevent forest fires."
2. The United States Department of Forestry is trying to prevent forest fires and to plant enough trees yearly to keep our forests from becoming depleted.
3. Opportunity for mention of dangers in this occupation, saw mills, circular saws, and so forth.

Dairy and Cattle Raising—Fourth Grade—City S.

1. Sanitary conditions of cattle barns demanded by health commissioner of state to avoid typhoid fever.
2. Dairy must be clean and comfortable.
3. Modern dairymen insist upon absolute cleanliness of cows to avoid harmful bacteria.
4. Milk men must wear clean, white clothes.
5. Milk is tested for the amount of bacteria it contains.
6. Certified milk has a minimum amount of bacteria.
7. Pasteurized milk is heated and then cooled to kill organisms which may cause disease.

D. *Literature*—Fourth Grade—City K.

Original compositions on the following topics:

1. How to be safe at home.
2. How to be safe at school.
3. How to be safe in our city.
4. Why we believe in "Safety First."
5. A narrow escape.

Comments on courses of study in regular subject-matter fields. The amount of safety material contained in courses of study in the accepted school subjects as illustrated by the foregoing examples shows clearly how the idea of safety has permeated the subjects of the traditional curriculum. It is also evidence that the schools have already awakened to the need of such instruction and are teaching safety under a number of classifications.

CHAPTER V

CURRENT PRACTICE IN SAFETY EDUCATION AS OBSERVED IN SCHOOLS

Description of safety work observed. In order to secure first hand information regarding the teaching of safety in actual school situations, the writer visited three school systems and took careful notes on the lessons observed. Although the time spent in each school system varied from one to three days, the account reported is but a cross section of the work seen.

Safety work in City S. The schools of City S. may be said to illustrate the adaptation of safety teaching to local needs. For example, in districts where traffic was unusually heavy, the majority of safety lessons throughout the school dealt with traffic situations. In a school composed mainly of children of foreign parentage, the health problem and need for cleanliness were stressed. In a school situated in an industrial district where the parents worked in nearby factories, a study was made of the protection of workingmen in industry.

Correlation of safety teaching with the regular school subjects was noted. Topics dealing with the organized agencies that promote health and prevent disease were in some cases classified as civics or health. In order to secure the desired information, various reading and arithmetical activities were utilized. In one class the knowledge gained formed the basis for a large chart showing the city's expenditures for different departments, and comparisons by various pupils were being made from this chart.

Interest was added to the safety work by means of pantomimes and dramatization. Especially interesting was a health "movie" which was the outcome of a group project undertaken to give information to other classes on some health topics. Pictures representing healthy children, the foods which are body builders, correct posture, warnings against bacteria and so forth, had been mounted on long rolls of paper. Appropriate captions for these pictures had been printed, and the frame work or box

which held the roll of pictures had been constructed. Different members of the class explained how different committees had worked together to make the movie a success.

Safety work in City B. Safety work in City B. illustrates how safety may be carried on through school organizations. The safety work of the school was handled through the Junior Safety Council, an organization composed of a president and secretary and a delegate or representative from each room, who attends the meetings of the council and then reports to the home room the business conducted during the meeting.

The usual parliamentary procedure was followed. Reports were heard from the Bulletin Committee, Building Committee, Safety Patrol, and so forth. The president cautioned various members to enforce safety practices more strictly during the coming week, to take more responsibility in guarding the younger children, and to co-operate more effectively with the principal and the Safety Council advisor.

Safety work in City M. The school visited in City M. was also illustrative of safety teachings as carried on by organizations. An assembly period was in progress and the members of the Patrol or Safety Council were in charge. The class in general science contributed to the assembly period by means of a series of experiments, explaining causes and showing results. Reports were also made on different topics, some only alluding to safety practices. It was explained that because of the drive made on safety the year before, the subject was not now receiving major attention although the work was not neglected and the Patrol or Safety Council continued to function effectively.

CHAPTER VI

CURRENT PRACTICE IN SAFETY EDUCATION AS INDICATED BY SOCIAL ATTITUDES

Changing attitude indicated in common practice. Common practice is interpreted to mean the present day practice of such organizations as taxicab companies, trucking corporations and others, who employ large numbers of men to operate machines, and who are responsible to the public for the conduct of their employees. In recent years the increased congestion of traffic has created situations over which a single individual has little or no control. Increased public consciousness and group action are absolutely necessary if the number of accidents to all people is to be lessened.

Some companies have awakened to this need and have been conducting safety campaigns within their own organizations. They have done much to reduce the number of accidents. A most notable example of this is the safety campaign inaugurated by the Yellow Taxicab Company of New York City for the benefit of the public.

During the month of November, 1925, accidents were reduced 40 per cent, and during the first half of December accidents were cut 35 per cent below the record established for November.[1]

From an educational point of view the work has been valuable because it illustrates the temporary effectiveness of the "drive" versus other methods of instruction. Since the desired result is continued practice in safety, it will be interesting to follow the records of this company for the next few months to see if the number of accidents increases with the lessening of pressure from those in authority.

Changing attitude indicated in educational literature. To obtain some idea of the early appearance of safety teachings in educational literature, the card catalogue of Teachers College, Columbia University, was consulted and a search made for those books which would not be too technical for the layman and yet

[1] The Yellow-Graph—Vol. 4, No. 14, December 1925, page 1, (a paper issued by the Yellow Taxicab Corporation.)

probably would contain desirable safety material. It was assumed that physiology and hygiene were two subjects which might reasonably be expected to include the desired information. Fourteen books in these fields were examined. However, in giving an account of this material the sampling method was used and only those illustrations incorporated into this report which seemed to represent distinct or changing points of view.

This first evidence of safety teaching appeared in text books in physiology "designed for schools and families,"[1] published in 1845. The emphasis was remedial rather than preventive. In the preface, the author states the various methods which are to be incorporated in the book and also his reasons for the content. He says, "To make a knowledge of the structure and function of the different organs practical, the laws of the several parts, and the conditions on which health and disease depend have been clearly and succinctly explained. Hence it may be called a treatise on the principle of hygiene or health.

"To render this department more complete an appendix has been added, in which the appropriate treatment of burns, wounds, dangerous hemorrhage from divided arteries—the management of persons apparently drowned, and sick rooms—have been detailed that persons may know what *should be done* and what *should not be done* until a surgeon or physician can be called."[2]

In the appendix, the author further asserts that: "To meet those exigencies requires information and premeditation. The boy and girl should be so instructed that he or she can render assistance to persons suffering from accidents as well as the person of mature years. In most of these everyday occurrences, much pain and even death may be prevented by the prompt and proper assistance of some individual who may be present before a surgeon or physician is called."

In 1886 there was a slight shift in emphasis from remedial instruction to preventive measures. James Johonott and Eugene Bouton[3] published a textbook in physiology with a list of thought

[1] Cutter, Calvin, M. D. "Anatomy and Physiology Designed for Schools and Families." S. N. Dickinson Company, Boston, Massachusetts—1845.

[2] Ibid. page 5.

[3] Johonott, James, and Bouton, Eugene. "How We Live or the Human Body and How to Take Care of It." D. Appleton Company, New York, 1886.

provoking questions at the end of each chapter. A few of these questions are quoted—"Why should we not take a pan of live coals into the bed room which we occupy? What harm comes from breathing air filled with waste matter? What shall we do when we detect carbonic acid gas? Why is outdoor air better to breathe than indoor?"

During the period of 1906-1918 accident prevention received considerable attention in the schools. In addition to the work of hygiene required in many states, fire prevention also was stressed and many states during this period passed laws requiring that it be taught. In 1918 under the direction of Dr. E. George Payne, formerly President of Harris Teachers College, St. Louis, Missouri, the experimental teaching of safety was undertaken in the public schools of St. Louis.

Since 1918 the safety movement has spread until now we not only have many courses of study devoted entirely to the subject of safety, but also several textbooks on safety. Furthermore, we have abundant evidence that safety material is included in citizenship courses, civics, general science courses, and in the other established subjects of the elementary curriculum where there is apparent relationship.

Changing attitude indicated in economic literature. For many years the United States was conspicuous among civilized nations in having made no provision for compensating injured workmen.[1] Previous to 1908 a large per cent of government employees were not permitted to share in the meagre plan in operation at that time.

In 1908 President Taft issued an executive order to place all arsenals, navy yards, river and harbor works and The Panama Canal under the compensation principles and on behalf of the civil service of the Federal Government for injuries and disabilities incurred while on duty.[2] In 1916 Congress passed an act bringing all civil service of the government under a compensation law which in some respects is the most liberal and comprehensive ever enacted.

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[1] First Compensation Act drafted along modern lines passed by Germany 1884, other European countries have enacted compensation laws as follows—Austria 1887, Norway 1894, Great Britain 1897, France 1898, Denmark 1898, Spain 1900, Sweden 1901, Russia 1903, Belgium 1903. (See Bulletin No. 74 of the United States Bureau of Labor, January 1908.)

[2] The Annals of the American Academy of Political and Social Science, Industrial Safety. January 1926. Vol. CXXII. No. 212, page 27.

Now forty-four states, Hawaii, the Philippines, and Alaska have compensation laws covering all but agriculture and domestic service. Continued interest in the compensation problem is borne out by the rapidity with which changed conditions are being brought about. Considering that the first Workmen's Compensation Act in the United States was passed by the State of New York in 1910, much progress has been made in the protection of the workingmen.

The development of safety education in industry. The first method used to interest the workingman in safety was the use of the bulletin board. Often this was just a blackboard with newspaper clippings and monthly reports of accidents that had happened in the plant. The notices stayed on a month or until the rain washed them off. The painted blackboard lost its interest and was finally improved by having the bulletin board illuminated. This bulletin board had to be at least four inches deep with a glass front so that small safety devices could be placed in it.

The second method was to display safety posters but it was felt that these influenced the man only during his working time and many suggestions were forgotten during the hours when he was away from the factory. The public school campaign was seen by the industrial inspector as a means of reaching the man in his home and was seized upon as a way of keeping safety continually before him. Not only would this means prevent accidents to children but would reach the parent through the child if by no other admonition than "Don't get hurt today, Father—accidents can be prevented."

Another method for promoting safety work has been the use of motion pictures.[1] There are today over one hundred safety films, some of strong dramatic interest and some with no definite plot but simply illustrations of safe and unsafe practices. All these films are available for educational purposes and many for free distribution.[2]

The underlying thought throughout the work of the industrial safety movement has been the reduction of accidents and the em-

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[1] Safety Fundamentals. Published by the Safety Institute of America. New York City, 1920. page 201.

[2] A list of films may be secured from National Safety Council, 108 East Ohio Street, Chicago, Ill.

ployment of the surest means for attaining this purpose. In order to accomplish the goal, both education and psychology have been relied upon. The psychologist says that safety thinking is a habit and that habits are formed through following those paths of least resistance which bring the greatest momentary satisfaction.[1] "The safety habit—cautiousness—comes from frequent realization of consequences of dangers avoided."

And yet we who believe in the philosophy of Whitney do not regard safety as taking the joy out of life because of being overly cautious. Whitney[2] regards safety as the preservation of life to continue the adventure of life. If life is worth while it is worth continuing, then, the safe piloting of life's adventures must depend upon facing the risks of life fearlessly but with a knowledge of their inherent qualities. "Some of the thrill in life is in meeting its dangers. Our workers, our citizens must first understand what safety is: it must become a desirable and sought for attribute of living. It must be worked into the habits of consciousness of children as they are taught to talk and live."[3]

The philosophy underlying the safety movement and the educational principles resting on this philosophy, while necessary, are not sufficient in themselves. If the annual toll of accidents in industry is to be cut down, safety must be woven closely into the industrial fabric. It is not enough to tell an operator not to let his fingers get under the punch press if it is so constructed or operated that accidents are practically bound to occur. Safety features must be an intrinsic part of the design of the machine and of the physical layout and operation of the plant.[4]

The change which has taken place in safety teaching is not unlike the change which has taken place in other branches of knowledge. Formerly there was the propounding of remedial advice. Facts remained more or less isolated and the immediate application of these facts was too practical an undertaking to be

[1] Ashe, Sidney W. "Organization in Accident Prevention." McGraw-Hill Book Company, New York.

[2] Whitney, Albert W. "The Inner Meaning of the Safety Movement Particularly in Relation to the Problem of Education." A paper read before the Twelfth Annual Congress of the National Safety Council, Buffalo, October 1, 1923.

[3] The Annals of the American Academy of Political and Social Science. Industrial Safety. January 1926, Vol. CXXII, No. 212, page 28.

[4] Agnew, P. G. National Safety Code Program in the Annals of the American Academy of Political and Social Science. Industrial Safety. January 1926, Vol. CXXII, No. 212.

regarded with much favor. Today there is the dissemination of such knowledge as will enable the individual more adequately to cope with the situations which confront him. Education is becoming exceedingly practical.

The acceptance of methods of teaching by industry is another indication of the practicability of education. In fact, reliance upon education has been given by some in authority as the most worth while innovation in modern industry.[1] With the inauguration of safety instruction in the factories, accidents have been lessened and production increased because of the conserving of the energy of the worker both in physical fitness and in time. The energy thus released has been spent for the purpose for which it was employed.[2] Furthermore, understanding of the safety problem is essential if the reduction of accidents is to continue. One writer has said "Most safety work, most guarding (of machinery), most expenditure for safety go for naught unless the worker himself understands the safety problem, the causes of accidents, and his responsibility for accident prevention."[3] Another writer has produced statistics in support of the value of education in industry. He says, "In a large steel plant the accident records show that men employed less than thirty days were injured six times as frequently as those employed longer. . . . . These accidents are due not so much to carelessness or foolhardiness as to ignorance of hazards and the proper way to do the work and hesitancy in asking for instruction . . . . Each new employee is a potential hazard and as you multiply them, you multiply the hazards and the possibilities of accidental injuries. . . . . Time and money spent in giving instruction to new employee will reduce the labor turnover and assist in solving the labor problem."[4]

The problem of teaching in industry is both an economic and a social one. The American Car and Foundry Company spent $1,000,000 for accident prevention in fourteen years. It saved approximately $2,700,000 by doing this. The United States Steel

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[1] The Annals of the American Academy of Political and Social Science. Industrial Safety, January 1926, Vol. CXXII, No. 212, page 20-26.

[2] Ibid.

[3] The Annals of the American Academy of Political and Social Science, Industrial Safety, January 1926, Vol. CXXII, No. 212, Foreword.

[4] Educating the Workman. Outline of Lecture. Schools for Foremen. National Safety Council. Chicago.

Corporation expended $9,763,063 in ten years. According to calculations, it thereby gained $14,609,920.[1] Aside from the great saving in time and money, the general feeling of good will which accompanies the realization that both employer and employed are working together to promote the common good brings returns not reckoned on a dollars and cents basis. The human cost of production, while difficult to calculate, can be explained according to certain psychological principles. The worker who finds pleasure in his work will produce more than he who finds pain in it. "It is therefore necessary that the employer shall condition his employees according to humanitarian ideals. Compensation for an accident is right. Prevention of an accident is a duty."[2] The preceding discussion demonstrates forcibly that education can and does function in a practical situation.

[1] The Annals of the American Academy of Political and Social Science. Industrial Safety. January 1926. Vol. CXXII No. 212, page 20.
[2] Ibid.

A SUMMARY—TABLE I

General Summary by Type and Age
Reports of Accidents to National Safety Council, July 1, 1925, to June 30, 1926

Type of Accident	Number of Persons Killed						Number of Persons Injured					
	All Ages	0-4 Years	5-14 Years	15-54 Years	55 and over	Unc.	All Ages	0-4 Years	5-14 Years	15-54 Years	55 and over Years	Unc.
Motor Vehicle—Total (Average population, 33,953,475)	6758	316	1106	2323	1253	1760	151,26	5990	26863	71823	9982	36609
Motor vehicle with pedestrian	3677	268	986	1077	1048	298	69567	4682	21891	29133	7094	6767
Motor vehicle with motor vehicle	511	16	30	347	66	52	39301	1049	2492	28832	2033	4895
Motor vehicle with R. R. train	233	8	6	164	29	26	619	13	34	435	16	121
Motor vehicle with street car	226	7	7	168	20	24	4610	63	282	3675	248	342
Motor vehicle with bicycle	61	1	35	19	4	2	2975	20	1028	1650	58	219
Motor vehicle with horse vehicle	27	...	2	16	7	2	1788	14	127	1298	151	178
Motor vehicle with other vehicle	67	1	9	44	7	6	2043	25	490	1242	71	215
Motor vehicle with fixed object	279	4	6	214	22	33	[illegible]	45	199	3216	156	370
Non-collision accident	330	9	17	243	34	27	3014	65	275	2149	135	390
Unclassified	1347	2	8	31	16	1290	23384	14	45	193	20	23112
Other Public Accidents—Total (Average population, 14,551,470)	1571	50	160	545	222	594	7688	187	872	3316	616	2697
R. R. not with motor vehicle	112	2	11	62	15	22	99	...	17	57	8	17
Street car not with motor vehicle	119	5	10	43	36	25	1083	39	94	571	131	248
Other vehicle not with motor vehicle	255	15	21	96	58	65	2018	72	273	1063	234	376
Other street accidents	118	6	7	35	24	46	1317	92	205	576	125	389
Buildings and structures	117	2	4	46	18	47	777	17	53	264	36	407
Drowning	359	9	73	121	21	135	.....	.....	.....	.....	.....	.....
Firearms	168	2	9	35	3	119	496	4	19	75	2	396
Other public accidents (includes cases not otherwise classified)	323	9	25	107	47	135	1898	33	211	710	80	864
Home Accidents—Total (Average population, 12,162,400)	1759	222	109	447	351	630	3193	208	334	995	153	1503
Falls	522	26	22	110	196	168	1257	43	139	258	76	741
Burns and scalds	378	101	42	66	55	114	398	56	31	102	1	208
Asphyxiation and suffocation	360	41	7	146	68	98	271	19	25	131	36	60
Fires and explosions	84	15	14	33	13	9	306	16	40	179	11	60
Electricity	27	1	1	12	1	12	.....	.....	.....	.....	.....	.....
Poisons	95	24	4	40	5	22	321	37	11	97	5	171
Firearms	23	1	3	12	3	4	51	2	7	28	.....	14
Other home accidents (includes cases not otherwise classified)	270	13	16	28	10	203	589	35	81	200	24	249

FIGURE I. DISTRIBUTION OF MAJOR FATALITIES

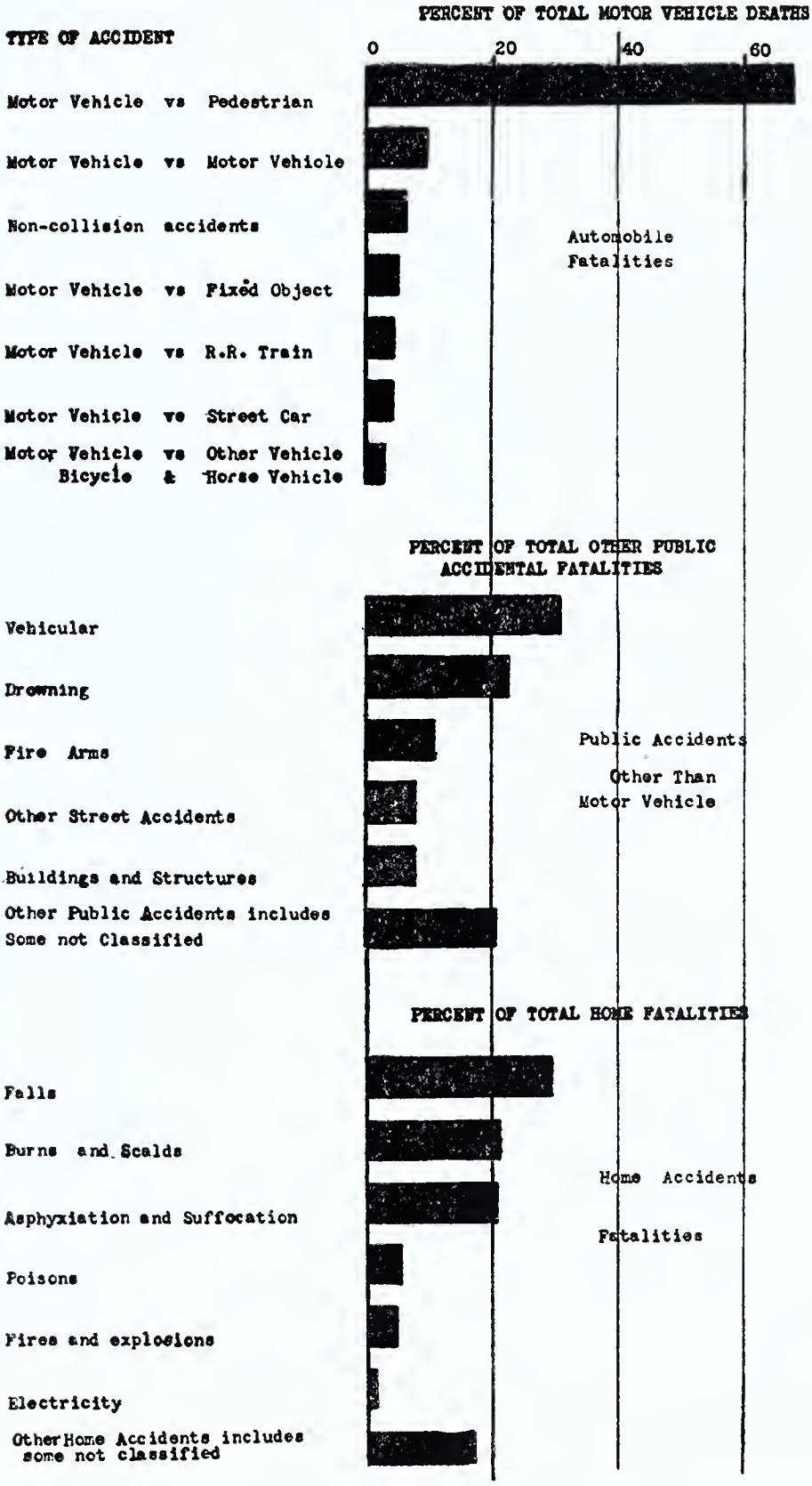
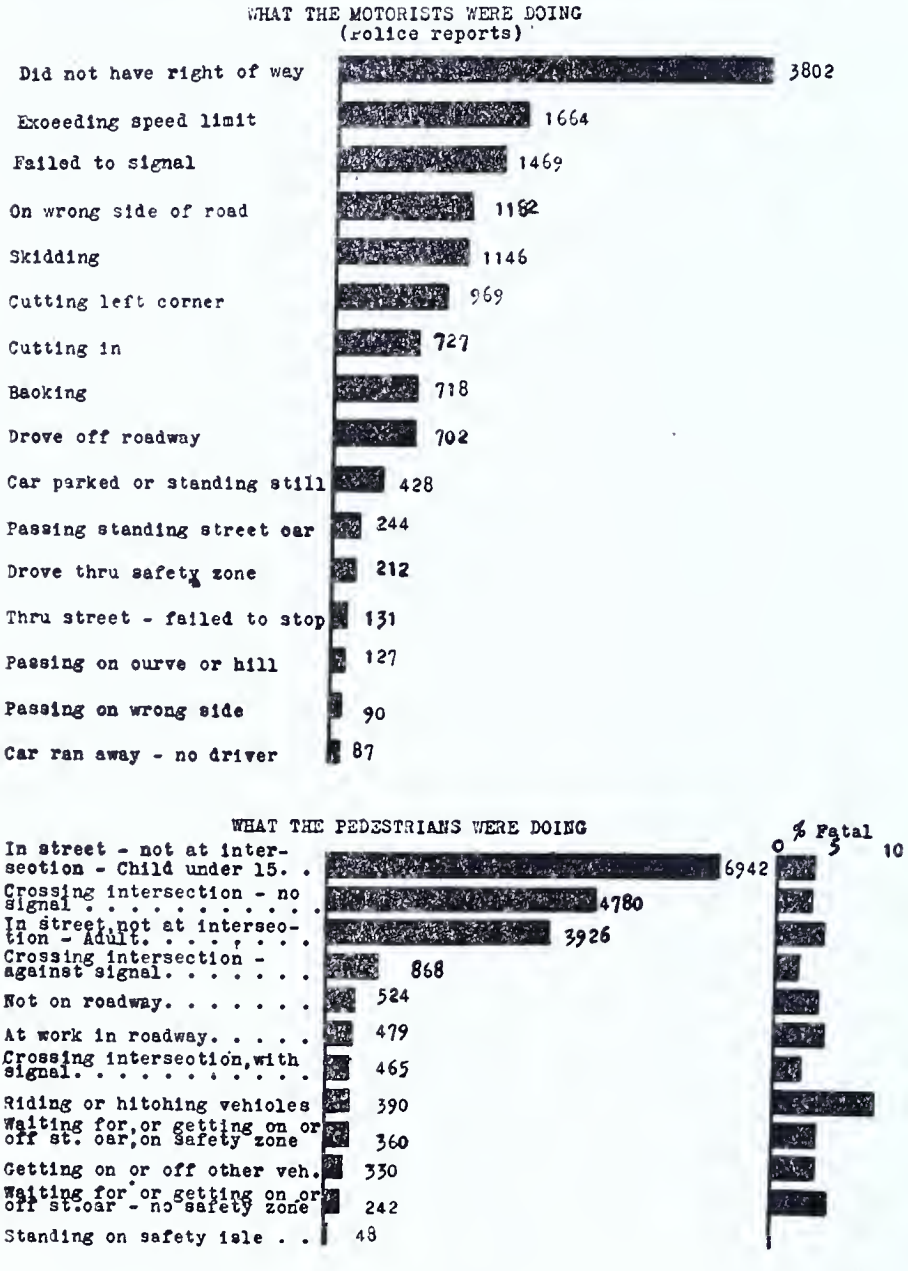


FIGURE II. HOW MOTOR VEHICLE ACCIDENTS OCCUR


WHAT THE MOTORISTS WERE DOING
(Police reports)
Did not have right of way 3802
Exceeding speed limit 1664
Failed to signal 1469
On wrong side of road 1182
Skidding 1146
Cutting left corner 969
Cutting in 727
Backing 718
Drove off roadway 702
Car parked or standing still 428
Passing standing street car 244
Drove thru safety zone 212
Thru street - failed to stop 131
Passing on curve or hill 127
Passing on wrong side 90
Car ran away - no driver 87
WHAT THE PEDESTRIANS WERE DOING
% Fatal
0 5 10
In street - not at intersection - Child under 15. . 6942
Crossing intersection - no signal 4780
In street not at intersection - Adult. 3926
Crossing intersection - against signal. 868
Not on roadway. 524
At work in roadway. 479
Crossing intersection with signal. 465
Riding or hitching vehicles 390
Waiting for or getting on or off st. car on safety zone 360
Getting on or off other veh. 330
Waiting for or getting on or off st. car - no safety zone 242
Standing on safety isle . . 48

CHAPTER VII

GENERAL OBJECTIVES OF SAFETY EDUCATION

Approximate aims of safety instruction. The exceedingly practical social and economic significance of safety objectives not only necessitates the formulation of an educational program which derives its content from every day life but also makes it imperative to teach and guide learning so that it may function automatically in every day life. The safety program should therefore consist of experiences in which safety attitudes are learned through numerous and varied approaches. It should also insure enough practice in the items of experience which are crucial to every day safety. It should organize and reorganize these specific habits and responses until they result in generalizations by means of which necessary new situations may be satisfactorily met. Furthermore, it should result in insight into the broader social significance of safety and interest in investigation and invention which contributes to safety.

If the safety program is truly effective, the pupils will be whole-heartedly engaged in doing and learning to do the following things in school and in life:

1. Selecting safe things to do.
2. Doing things in safe ways.
3. Thinking what is safe to do.
4. Preventing others from being hurt.
5. Helping others who are hurt.
6. Thinking and planning for the safety of others.
7. Contributing to the general safety of the community.
8. Investigating and learning how situations are made safe, comfortable and convenient.
9. Investigating and learning to see how conditions may be made safe, comfortable and convenient.

Controlling principles with respect to selection and organization of subject-matter. In the light of these general objectives and in view of the general nature of the problem, the following principles are those that the writer believes should control and direct the selection and organization of materials and the procedures of safety education.

1. The educative process in safety should be conceived as the learning of such specific traits as will function in real life activities.

2. Safety education should contemplate immediate outcomes with reference to the child's safety; and also remote outcomes which have to do with the building of proper attitudes toward safety and an appreciation of the educational values connected with such learnings.

3. The content of the curriculum in safety should be regarded as specific subject-matter to be learned and practiced in actual life situations.

4. The proposed course of study should constitute all of the important safety items from which the actual classroom curriculum may be selected and modified to suit community needs.

5. The safety learnings or safety items in the course of study should supply the child with some specific ways of behaving which will insure his own and others' safety in every day experiences.

6. The selection and organization of items should be such as will enable the child to build a growing appreciation of safety values and an individual responsibility for realizing them.

7. The child will organize out of his own experience. To the extent that the safety items are at all effective in his conduct, they are the product of his own organization from experience.

8. Any safety item can be considered learned when it functions successfully in a hazardous situation.

9. Safety items should be so planned that they may be learned in association with other desirable traits.

10. The work should not be planned on the basis of assigned lessons and recitations. It should come out of the child's experience. We do not know whether safety outcomes lend themselves to immediate objective measurements since no method has as yet been developed to so measure them. But we do know that they can be measured in the child's experience.

CHAPTER VIII

SPECIFIC OBJECTIVES DETERMINED BY SOCIAL SURVEY OF A SCHOOL

School selected for the study. Through the courtesy and professional interest of one of the principals in the New York City public schools, a large elementary school having over 2,000 pupils enrolled was made available for the work that was undertaken. It was thought best to center attention on one school and to carry out in practice what is so often advocated in theory; namely, that the course of study should be constructed for a specific situation and should be based upon all facts available concerning the needs of the school and the environment.

The school building is a splendid structure, completed this past fall, standing five stories high, housing over 2,000 pupils from the kindergarten to the eighth grades inclusive, and requiring fifty teachers to care for the daily instructional needs. The equipment is modern in every respect with adequate facilities for home economics and shop work, gymnasium and swimming pool privileges, and so forth.

Location of the school building. The building is located in the middle of the block between 8th and 9th Avenues and faces both 21st Street and 22nd Street. There is no play space—a very small court, designating the entrance to the building and providing light for some of the class rooms, saves the school entrance from opening directly on to the sidewalk.

With no available play space the children utilize the sidewalks or streets for such such simple games as can be carried on in this way. The situation is further aggravated by the heavy traffic on the streets in this district. All day long heavy trucks pass directly in front of the school going to and from the piers. The principal has requested that the street in front of the school be closed to traffic but at the present writing his request has not been granted. Eighth Avenue is especially hazardous as a constant

stream of vehicles pass along this street often making it necessary to wait several minutes for an opportunity to cross. A traffic count was made by the writer February 5, 1926, at 9:30 a. m.. It was found that in eight minutes 76 trucks, 73 taxicabs and automobiles, 10 street cars, and 29 horse drawn vehicles passed the corner of 21st Street and 8th Avenue. A policeman is detailed at this corner at noon but during the other hours of the day this dangerous crossing is unguarded and the children are required to get across the street without assistance.

Recreational facilities of the neighborhood. The opportunities provided by the school have been briefly mentioned. Hudson Guild, a social settlement house in this district, provides for those who care to come and enter into some of the activities of club work. Chelsea Park is the only open space which offers a playground and athletic field for children of the district, but at best it accommodates only a small number of those who should enjoy its privileges. It is reported that public parks and playgrounds serve only those in the immediate vicinity as the children coming from a distance find others in possession.[1] It is obvious that the children of this district must either forego the fun attached to play of various kinds or else resort to such games as can be played in the city streets.

Character of the Neighborhood. Examination of statistical reports[2] and spot maps[3] revealed the character of this school district to be mainly industrial. The factories are innumerable and range from the activities carried on in a tiny shop by the proprietor and his assistants up to the large factory which employs several hundred workers.[4] As indicated on the map,[5] the making of women's wear is a prominent industry and includes women's clothing, fur goods, gloves, mittens, cloth, knit goods, millinery and

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[1] Unpublished material of Recreational Survey conducted by Mr. Chas. J. Storey, Russell Sage Foundation, New York City.

[2] Laidlaw, Walter, "Statistical Sources for a Demographic Study of Greater New York, 1922.

[3] Map prepared by the Industrial Bureau. The Merchants Association of New York, 1922.

[4] Plans for New York and its Environs—Economic and Industrial Survey—Economic Series Monograph No. 1, 1924.

[5] Map prepared by the Industrial Bureau. The Merchants Association of New York, 1922.

lace goods. The main section of the district given over to this industry is from 9th Avenue to 7th Avenue and from 14th Street to 23rd Street.

Men's clothing, collars, cuffs, furnishing goods, hats and caps, suspenders, garters are also made in the district. This industry is found mainly from 7th Avenue to Broadway and from 14th Street to 26th Street.

Metal industries, next to clothing, are among the most conspicuous. The output includes metal and solder; bronze and copper products; cash registers and calculators; machines, copper, tin and sheet iron work; cutlery and edge tools; electric machinery, engines (steam, gas and water), electroplating, metal novelties, foundry and machine shop products; furniture metal, gas and electric fixtures, hardware, instruments (professional and scientific), iron and steel bolts, nuts, washers, welding machines, pumps. This industry covers a wide area and extends from the Hudson River to Broadway and from 23rd Street to 28th Street.

The neighborhood also has industries which convert wood into saleable products—such as baskets and rattan and willow ware, billiard tables, bowling alleys, cigar boxes, barrels, furniture, lumber planing and mill products, organs, packing boxes, pianos, wood turning and carving. This industry is not as large as the others previously mentioned and is found between the Hudson River and 9th Avenue, and 14th and 23rd Streets.

Leather products made in the district include belting, boot and shoe stock, boot and shoe findings, gloves and mittens, leather tanned, curried, and finished, saddlery and harness, trunks and valises. This, too, is a comparatively minor industry occupying space between 7th Avenue and Broadway, and 14th to 23rd Street.

Printing and publishing plants do book and job printing and die sinking; engraving steel and copper plates; engraving wood, lithographing; newspapers, periodicals and photo engraving. They are found from 7th Avenue to Broadway and from 23rd to 28th Streets. Miscellaneous industries include shops dealing in textiles, jewelry, notions, novelties, house furnishings, stone, clay and glass products, paper products, dental goods, photographic materials, rubber tires, tubes and rubber goods, toys and games, umbrellas and canes, and 128 other lines.

One might assume that people living in the vicinity of various

factories will seek employment there. This assumption is not always true.

A survey of a large manufacturing plant on the west side made in August, 1923,[1] showed that the employees lived in almost any part of the city. Twenty per cent of these workmen walked to work; 12 per cent required from one to fifteen minutes riding to work; 40 per cent required sixteen to thirty minutes; 14 per cent required thirty to forty-five minutes; 11 per cent forty-six to sixty minutes and 3 per cent required more than an hour.

There is greater concentration in the industrial districts among foreign born workers than among American born workers. Forty-two per cent of the foreign born workers live within walking distance of the plants where they work as compared with 25 per cent of the American born. This fact is of special significance to the problem of safety. In a discussion of accidents, Cameron[2] states what in his opinion are the real causes of accidents and mentions both the immigrant problem and the nomadic laboring element as being of great importance.

If members of the child's own family are not employed in factories in the immediate neighborhood, it is not unlikely that they are employed in some similar occupation in another part of the city. In order that the children might be informed concerning the opportunities and the hazards of the various industries, the information concerning them was secured. The location of these factories makes them easily accessible for purposes of observation or illustration.

Occupations of the parents. On the question blank submitted to the children from the fourth to the eighth grades, the following questions were asked: "Where does your father work?" "What kind of work does he do?" "If your mother works away from home, what kind of work does she do?" The children were very careful to give the information asked for, some even explaining why they could not give more exact information. Considering the large number of families represented in the 1,050 replies, it is surprising that in such a district more of the mothers do no other

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[1] Plans of New York and Its Environs. Economic and Industrial Survey. Economic Series Monograph, No. 1, 1924.

[2] The Annals of the American Academy of Political and Social Science. Industrial Safety. January 1926. Vol. CXXII, No. 212, page 29.

work than caring for their own homes. The occupations of the mothers together with the frequency of mention are as follows:

1. Dressmaker (23)
2. Housekeeper (17)
3. Works for factory at home (16)
4. Janitor (13)
5. Bookkeeper office work (11)
6. Helps in laundry (9)
7. Office cleaner (9)
8. Waitress (8)
9. Helps in restaurant (7)
10. Embroidery work (7)
11. Telephone company operator (6)
12. Box maker (4)
13. National Biscuit Company (3)
14. Saleslady (3)
15. Works on furs (3)
16. Packs crates (3)
17. Manicurist (3)
18. Works on coats (2)
19. Helps in bakery (2)
20. Cook (2)
21. Maid (2)
22. Teaches school (2)
23. Helps in delicatessen (2)
24. Flower and feather factory (2)
25. Silk lamp shades (2)
26. Runs elevator (1)
27. Works in glass factory (1)
28. Milliner (1)
29. Rug binder (1)
30. Purchasing agent (1)

The fathers of the children in this school district are engaged in 129 different occupations. It will be noted that there is considerable overlapping and that "owns a fruit stand" or "candy merchant" might easily be classified under "storekeeper." However, the exact replies of the children have been tabulated. The occupations of the fathers together with the frequency of mention are as follows:

1. Longshoreman (57)
2. Truck driver (49)
3. Chauffeur (taxi) (28)
4. Storekeeper (kind not specified) (19)
5. Iceman (18)
6. Barber (17)
7. Painter (17)
8. Janitor (15)
9. Sells groceries (12)
10. Carpenter (12)
11. Mechanic (11)
12. Laundry (11)
13. Candy-merchant (10)
14. Auto mechanic (10)
15. Owns fruit stand (10)
16. Fireman (10)
17. Cook (10)
18. Baker (10)
19. Engineer (10)
20. Butcher (9)
21. Office work (9)

22. Watchman (9)
23. Salesman (9)
24. Tailor (8)
25. Own stationery store (8)
26. Waiter (8)
27. Lunchman (8)
28. Furs (8)
29. Shoemaker (8)
30. Hotel owner (8)
31. Metals (8)
32. Perfumery (8)
33. Street worker (7)
34. Printer (7)
35. Foreman (7)
36. Postman (6)
37. Ice and coal business (6)
38. Electrician (6)
39. Jeweler (6)
40. Porter (6)
41. Clerk (6)
42. Plumber (5)
43. Mover (5)
44. Elevator man (5)
45. Packer (5)
46. Detective (4)
47. Factory worker (4)
48. R. R. inspector (4)
49. Telephone company (4)
50. Shoe shiner (4)
51. Clothing (4)
52. Plasterer (4)
53. Real estate (3)
54. Brick layer (3)
55. Insurance (3)
56. Dry goods store (3)
57. Tobacco Company—American (3)
58. Policeman (3)
59. Designer (3)
60. Pork packer (3)
61. Shoveler (3)
62. Delivery man (3)
63. Telegraph company (3)
64. Embroidery work (2)
65. Radio broadcaster (2)
66. Piece worker (2)
67. Newspaper (2)
68. Milkman (2)
69. Office manager (2)
70. Rents furnished rooms (2)
71. Theatre manager (2)
72. Weighs goods at piers (2)
73. Furniture work (2)
74. Salesman (2)
75. Collector at docks (2)
76. Bartender (2)
77. Blacksmith (2)
78. Laborer (2)
79. Contractor (1)
80. Brass factory (1)
81. Glass cutter (1)
82. Dye house (1)
83. Lumber yard (1)
84. Brush maker (1)
85. Sponges (1)
86. Claim clerk (Standard Oil) (1)
87. Window cleaner (1)
88. Cashier in restaurant (1)
89. Department of Water Supply (1)
90. Hack business (1)
91. American Red Cross (1)
92. Motor man (1)
93. Lamp shade maker (1)
94. Hair manufacturer (1)
95. Musician (1)
96. Business College (1)

97. Hospital orderly (1)
98. Doctor (1)
99. Undertaker (1)
100. Garage owner (1)
101. Millinery (felt) (1)
102. Captain of a boat (1)
103. Mattress making (1)
104. Sketch artist (1)
105. Stoker on ferry (1)
106. Railroad machine shops (1)
107. Bank messenger (1)
108. Fish store (1)
109. Celluloid worker (1)
110. Druggist (1)
111. Novelties (1)
112. Railroad conductor (1)
113. Section manager (Macy) (1)
114. Book company (1)
115. N. Y. C. paymaster (1)
116. Piano tuner (1)
117. Store (auto parts) (1)
118. Toys (1)
119. Stapleman (1)
120. Red Star Line (1)
121. Cigar maker (1)
122. Makes paint (1)
123. Notary public (1)
124. Checks clothes (1)
125. Journalist (1)
126. Wholesale produce (1)
127. Navy yard foreman (1)
128. Bill poster (1)
129. Horse trainer (1)

In the main the occupations of the mothers of the family are not particularly hazardous although there are a few possessing a special element of danger. The occupations of the fathers, on the other hand, if not hazardous, are such that some knowledge of safety is almost essential. For example, the first three items mentioned require adherence to safety principles or the men engaged in these occupations will not be allowed to continue their work. Men who work in factories or on railroads have found that the criterion is not the severity of accident but the frequency. Therefore the worker who has had three trivial accidents is a more dangerous person than the one who has had a single bad wound.[1]

Homes in the district. By locating the Sanitary Districts in New York City on the map[2] and knowing the boundaries of the school district, the exact number of dwellings, families and so forth were ascertained. There are 3,294 dwellings, 15,583 fam-

[1] The Incidence of Industrial Accidents Upon Individuals with Special Reference to Multiple Accidents. Industrial Fatigue Research Board, No. 4, 1919. Great Britain.

[2] Laidlaw, Walter, "Statistical Sources for a Demographic Study of Greater New York," 1922.

ilies, 289 of whom own their own homes, and there are 67,508 persons of all ages living in the district. The congestion resulting from such numbers of people being crowded together in a small space, as well as the moving about which results from insecure home conditions, create additional safety problems.

Nationality. A large proportion of the children in this school are from foreign homes.[1] Needless to say the inability to understand and interpret the language is a very serious factor which relates to the problem of safety. The nationalities represented in the school are as follows:

American	882	Greek	60
English	68	Spanish	31
Irish	115	Dutch	3
Scotch	30	Porto Rican	5
French	24	Czecho-Slovakian	3
German	69	Turkish	1
Austrian	32	Roumanian	4
Polish	15	Mexican	1
Russian	80	Swedish	3
Italian	234	Miscellaneous	18

Summary of conditions in district in regard to safety education. The location of the building is a factor to be considered in thinking of the need for safety instruction. A building in the middle of the block has approximately one half as many traffic problems to consider as one situated on the corner.

Recreational facilities which do not care adequately for the children of a district undoubtedly tend to increase the hazards: first, children coming to the playground from a distance have more streets to cross and therefore meet more dangerous situations than those in the immediate neighborhood; and second, children coming from another community will not utilize playgrounds where children living in the community seem to be in command. When such a situation arises, one group will resort to the games which can be played in the street.

A neighborhood recognized as industrial has problems which are not common to a residential neighborhood. Certain types of

[1] Data secured from the records in the public school studied.

industries may threaten the neighborhood, as gases, dust, explosions and so forth originating in the plant may spread so as to affect the entire environment. Then, too, the type of industry may produce hazards of various kinds which affect the entire social group. Certain industries carry with them certain dangers. Information concerning these dangers to be found in different industries should be so disseminated that those who enter the industry will be more adequately prepared.

The hazards induced by the congestion of population in industrial districts again illustrates the need for safety instruction. Foreign groups are often willing to put up with over-crowding and living quarters which are dark and unsanitary. Life in a new country is exceedingly difficult. These groups cluster around their place of work as it often represents to them their only sense of security. Inability to understand and interpret the language tends to make difficult an adequate solution of the safety problem.

CHAPTER IX

SPECIFIC OBJECTIVES DETERMINED BY SURVEY OF PUPIL EXPERIENCES REGARDING ACCIDENTS

Question blank. In order to determine the seriousness of the accident problem to the children of the district a question blank was submitted to all pupils from the fourth to the eight grades inclusive. The question blank was based upon the most common items found in courses of study in safety and was filled out by 1,050 children. Many children also added information pertaining to accidents. The accident list, together with the frequency of mention, is here reproduced.

Fire caused by:

1. Careless use of matches (39)
2. Window curtain blowing into open flames (19)
3. Going into closet with lighted match (11)
4. Upsetting candles (13)
5. Filling lamps (7)
6. Broken gas mantle (17)
7. Looking for leaks in gas pipe with lighted match or candles (7)
8. Not having zinc or sheet metal to protect floor and walls from stove (4)
9. Burning rubbish in open fireplace (4)
10. Bonfires (8)
11. Leaving a camp fire unprotected (1)
12. Ashes, oily rags and waste (1)
13. Escaping gas (14)
14. Electric irons (17)
15. Improper use of stove polish, or cleaning fluids (2)
16. Burn from oil lamp (1)
17. Improper use of kerosene, gasoline and alcohol (11)
18. Careless use of cigars and cigarettes by members of your family (14)
19. Celluloid toys and combs too near the fire (14)

20. Clothing and towels hung too near fire or gas heater (11)
21. Christmas tree decorations (15)
22. Fourth of July celebration (35)
23. Reasons unknown (7)

Scalds and burns caused by:

1. Scalding water or other hot liquids (226)
2. Handles of pans extending over edge of stove (72)
3. Steam from teakettle (64)
4. Getting too near stoves or radiators (67)
5. Stepping in bonfire (1)

Falls caused by:

1. Tripping over rugs, playthings (130)
2. Catching foot in hole in the carpet or on broken step (95)
3. Standing on chairs and shaky stepladders (69)
4. Slipping on fruit peelings (161)
5. Falling down elevator shaft or off moving vehicles (57)

Accidents in the street:

Have you ever been hurt:

1. When crossing the street (140)
2. When crossing the street in the middle of the block (39)
3. Stepping into the street from behind parked cars (17)
4. Playing in the street (31)
5. Hopping trucks and other vehicles (37)
6. Holding onto auto, street car, or other vehicle when on bicycle or skates (28)
7. Running into street after ball or hat (41)
8. Hooking rides with sled (22)
9. Failure to signal if riding a bicycle (14)
10. Riding on handle bars (37)
11. Roller skating in the street (52)
12. Using scooters or express wagons in the street (8)
13. Coasting in streets not closed to traffic (1)
14. Getting on and off street cars (21)

15. Holding umbrella the wrong way while crossing the street (..)
16. Crossing streets on which there are street car and railroad tracks (13)
17. Backing up of truck (1)

Railroad accidents:

1. Walking on railroad tracks and trestles (5)
2. Playing around railroad yards (7)
3. Failure to stop at grade crossings (1)
4. Picking up coal along railroad tracks (..)

Other accidents caused by:

1. Skating on thin ice (17)
2. Bathing in strange and dangerous places (46)
3. Careless behavior in boats and canoes (12)
4. Use of firearms (26)
5. Poisoning from food, wild berries, poison ivy (122)
6. Tasting the contents of unlabeled bottles (11)
7. Cuts and scratches from pins and needles (306)
8. Stepping on nails and tacks (235)
9. Wound from fish hooks (65)
10. Cuts from broken glass and tin cans (279)
11. Carrying knives, scissors, pointed articles (97)
12. Injuries from animal bites or snake bites (135)
13. Electric shock (150)
14. Auto ran into pole, member of family killed instantly (1)
15. Block of concrete fell on head, blinded eye (1)
16. Slipped on stairs and sprained hand (1)
17. Nail in hand (1)
18. Broken kneecap (1)
19. Cut on heel (1)
20. Fell down coal chute (1)
21. Fell through pane of glass (1)
22. Wound from heavy roll of paper falling on head (1)

Comments upon information secured from question blanks. The survey of pupil experiences as related to accidents bears out the evidence stated in connection with the accidents for the country

as a whole. The accidents of the home are far more frequent than those of the highway, thus again calling attention to the seriousness of this problem. There are no organized agencies where home accidents are reported, unless they prove fatal, so these data are significant when one considers that they in all probability represent situations which are typical.

This survey does not include accidents of which the children had no knowledge and, therefore, no doubt underestimates the frequency of home accidents appreciably. The extent and variety of the items together with the frequencies are abundant evidence of the existence of hazards in the lives of these children. The specific nature also of certain common accidents has definite implications for safety education.

CHAPTER X

SPECIFIC OBJECTIVES LOCATED BY STATISTICAL REPORTS OF ACCIDENTS IN SCHOOL DISTRICT STUDIED

Data secured. The data concerning the type of accident, the number of accidents, and the time when the greatest number of accidents occur were secured from the Bureau of Public Safety, Police Department of New York City.

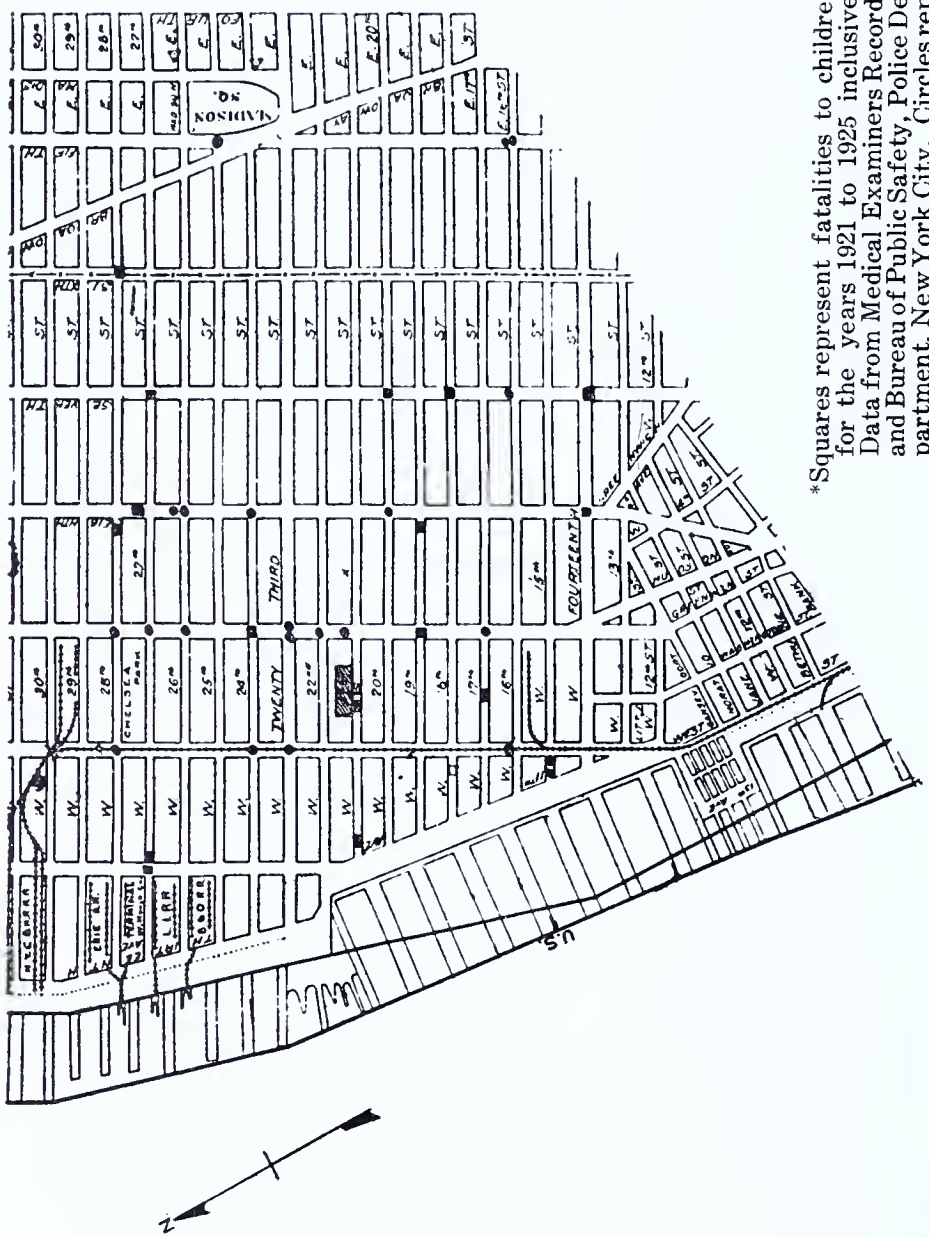
Inspection of enlarged wall maps of the city mounted on sliding frames and in sections showing all street intersections, school districts, and so forth, afforded an excellent means for instant visualization of what might be termed the geography of accidents. Large and small red or yellow pins were used to aid in the process of visualization.

The small red pins were used to denote a vehicular accident to persons under 16 years of age—large red pins to persons over 16 years of age. The small and large yellow pins indicate nonvehicular accidents to persons under 16 years of age and to persons over 16 years of age. These pins were stuck in the maps at the exact places of the accidents as soon as the accident report card was received.

Data for 1924 and the first eleven months of 1925 were secured from these maps and transferred to a map of the school district studied. Data were also secured from records in the Medical Examiner's office for the years 1922-1923. These were also "spotted" on the map as shown on page 50. It was found that in 1922 eight persons under 16 years of age were fatally injured within the boundaries of the school district; in 1923 five; in 1924, three; and in the first eleven months of 1925, there were three.

Although the Bureau of Public Safety records are absolutely accurate as they report only the accidents which actually occur in New York City, they are so classified that one cannot secure data concerning any one school in particular unless the wall map is inspected. For example, the school studied is one of three in District 7 according to their records. Therefore in interpreting addi-

MAP OF SCHOOL DISTRICT SHOWING WHERE ACCIDENTS OCCURRED*



*Squares represent fatalities to children for the years 1921 to 1925 inclusive. Data from Medical Examiners Records and Bureau of Public Safety, Police Department, New York City. Circles represent adult fatalities. Data from Bureau of Public Safety, Police Department, New York City.

tional data from this source, it must be kept in mind that reference is made to a larger area than that of our school district.

Table 10 shows the number of accidents to all children in school district 7 by all vehicles from March 1, 1923, when the Bureau of Public Safety began its work, to November 30, 1925. The reduction in the number of accidents is gratifying and is undoubtedly due to the combined efforts of the Bureau and of the other organized agencies which promote safety.

TABLE 10. ACCIDENTS TO ALL CHILDREN IN SCHOOL DISTRICT 7 BY ALL VEHICLES, NEW YORK CITY

DISTRICT	MARCH 1 TO DECEMBER 31, 1923		JANUARY 1 TO DECEMBER 31, 1924		JANUARY 1 TO NOVEMBER 30, 1925	
	Killed	Injured	Killed	Injured	Killed	Injured
7	19	483	22	472	9	370

The exact number of accidents classified according to type, or stating what the child was doing at the time of accident, together with the month the accident happened are given for school District 7 for 1924 in Tables 11 and 12 and for 1925 in Tables 13 and 14. (Child refers to persons under 16 years of age.)

The hour of the day when accidents occur is also a matter of interest. At 3 o'clock approximately one million children in New York City leave their schools for home. The Bureau of Public Safety posters remind us that 3 o'clock brings the danger hour and consequently the observance of "Safety Hour."[1] Examination of Table 15 shows the month and the hours in the day when accidents of all kinds occurred for the first ten months of the year 1925. These data refer to all age groups and all types of accidents at specified hours.

Conclusion drawn from accident statistics. The map of accidents clearly shows the danger spots within this school district. It will be noticed that the greatest number of accidents occur "with the traffic." In other words, streets heavy with traffic that is allowed to move in both directions are far more dangerous than the one-way streets which in New York City extend east and west rather than north and south. Attention is also called to the num-

[1] Collier, Barron. Stopping Street Accidents, A History of New York's Bureau of Public Safety. 1925, page 44.

ber of accidents which occurred in the immediate vicinity of the school. This evidence reinforces the statement previously made by the writer that the traffic problems in this district are acute and that safety instruction is needed.

TABLE 15. SHOWING NUMBER OF ACCIDENTS BY MONTHS AT VARIOUS HOURS IN THE DAY. NEW YORK CITY, 1925

CAUSES 1925	12 M. to 3 A.M.		3 A.M. to 6 A.M.		6 A.M. to 9 A.M.		9 A.M. to 12 M.		12 M. to 3 P.M.		3 P.M. to 6 P.M.		6 P.M. to 9 P.M.		9 P.M. to 12 M.	
	*K	*I	K	I	K	I	K	I	K	I	K	I	K	I	K	I
January	3	130	2	85	3	142	3	212	5	300	9	385	4	354	6	229
February	4	131	1	56	4	101	6	184	12	290	17	360	7	407	7	198
March	5	129	2	67	3	120	9	278	11	439	16	593	12	487	5	318
April	2	124	1	46	5	168	9	350	13	572	20	725	10	581	4	352
May	10	181	2	76	2	166	11	391	13	557	28	743	12	600	16	462
June	4	162	2	63	5	178	11	467	18	591	15	824	18	705	12	501
July	4	199	3	84	4	189	9	466	7	674	15	737	13	612	10	510
August	1	127	1	83	5	179	7	468	5	715	16	714	14	647	7	494
September	5	218	2	148	6	250	13	492	20	663	24	863	22	610	14	394
October	3	220	4	106	2	236	7	418	15	660	27	904	27	808	7	402

*K—Killed.
*I—Injured

The number of accidents to children in New York City has decreased in spite of the marked increase in the number of motor vehicles and in the number of children registered in schools. The comparative figures for motor vehicles for the present year with the last being 447,640 and 386,688. It is also reported that there are 20,000 more children registered in the public schools than were registered in 1924.[1] No one factor can be credited for the very gratifying reduction in the number of accidents to children. It is undoubtedly due to the combined efforts of many organized agencies which are working to promote safety as well as to the support given by many public spirited individuals in sponsoring safety work of all kinds and in co-operating wherever possible.

The hours from three to six in the afternoon are found to be those in which the greatest number of accidents occur. This statement is borne out by the investigations relating to automobile accidents under the direction of Dr. W. V. Bingham.[2] Dr. Bingham found that the hour between five and six had the greatest number of automobile accidents recorded against it, yet conges-

[1] Account appearing in the New York Times, December 7, 1925.
[2] Bingham, W. V. Lecture delivered at Columbia University, November 23, 1925, on "The Human Factor in Automobile Accidents."

tion as a hazard is almost as great in the morning as it is at this hour of the day. It is not the purpose of this report to attempt an explanation as to why this is true but it is quite in keeping with the nature of this study to point out the time of day when children should be more carefully guarded.

Statistics on accidents which have happened to children in School District 7 show that it is twice as dangerous to cross the street not at the crossing than it is at the crossing. Playing games in the street and running off the sidewalk into the street are two types of activity which exact a far heavier toll than collision of vehicles or jumping on and off vehicles in motion. Since an individual is able to protect himself by an avoidance of these activities, surely some form of safety instruction which furnishes information sufficiently dynamic to interest a child of school age is not only desirable but necessary.

CHAPTER XI

SPECIFIC OBJECTIVES LOCATED IN COURSES OF STUDY IN SAFETY EDUCATION

The specific items appearing in seventeen courses of study in safety education were tabulated and classified and are given on the following pages with the total frequency of mention for each item. Because of the wide area represented by the courses of study in safety, the safety items listed may be considered as those which are applicable to the general problem of safety in any school situation. Acceptance and rejection of certain items will depend upon the needs of the local situation.

For example, item 30 under Street Safety, "Do not pick up coal along the tracks" was mentioned eighteen times in the seventeen courses of study examined, yet this same item was one of two which had resulted in no accident to the 1,050 school children responding to the questionnaire nor to any member of their families. The reason is obvious, although railroad yards are within the school boundaries, the trains are electrified and coal is not used. Needless to say, such an item will not be stressed as much in one situation as in another even though some information concerning it is no doubt desirable.

All the items represented in the following list appear just as they were stated in the courses of study, even though in some cases the form of the statement is not defended by the writer nor are all the items considered significant. It is believed, however, that the total list is justifiable in that it is indicative of the present content of courses in safety education.

Home Safety

1. Putting playthings away so others will not trip (31)
2. Do not climb in high places (29)
3. Keep away from tubs of hot water (28)
4. Put sand on icy sidewalks (25)
5. Do not stand in rocking chairs (21)
6. Avoid careless use of matches (20)
7. Do not taste contents of unlabeled bottle (20)

8. Avoid accumulation of trash in cellar or attic (18)
9. Dangers from falls (16)
10. Keeping off stairways (15)
11. How to carry pointed articles (15)
12. Do not play practical jokes (13)
13. Do not pet strange animals—they may bite (13)
14. Keep articles out of the mouth (12)
15. Report sidewalks in need of repair (11)
16. Keep away from fires (7)
17. Tripping over feet (7)
18. Do not sit on window sills—you may lose your balance and fall (7)
19. Pick up pins (6)
20. Do not push against glass doors (5)
21. Do not slide on polished floors (3)
22. Never leave hoes or rakes with prongs up (3)
23. Do not slide down banisters (1)
24. Keep away from pans with handles extending over the flame (1)

Street Safety

1. Avoid running into street after ball or hat (77)
2. Avoid hitching (57)
3. Use care in crossing the street (51)
4. Watch the traffic officer (50)
5. Cross at the cross walk (49)
6. How to get off a street car (47)
7. How to get on a street car (46)
8. Look both ways before crossing the street (46)
9. Avoid running into the street from behind parked cars (38)
10. Keep away from fallen wires (38)
11. Play in safe places (37)
12. Learn the safety signals (37)
13. In crossing railroad tracks look both ways (36)
14. Do not play near the railroad tracks (36)
15. Hold umbrella the right way (34)
16. Pick up fruit peelings (31)
17. Do not ride on the handle bars of a bicycle (27)

18. Use the safety zone (27)
19. Use the proper railroad crossing (27)
20. Be careful when riding a bicycle (26)
21. Avoid putting the head or arms out of train windows (25)
22. Watch for the driver's signal (23)
23. Keep off autos and trucks (22)
24. Refuse rides from people you do not know (21)
25. Do not roller skate in the street (21)
26. Do not stand on the platforms of moving trains (20)
27. Watch out for automobiles, busses, trucks (19)
28. Keep on the sidewalk (19)
29. Keep from playing in the street with scooters or express wagons (18)
30. Do not pick up coal along the tracks (18)
31. Avoid jay walking (16)
32. Right use of sidewalk (11)
33. Cross railroad tracks only when the gates are up (7)
34. Watch out for boards with nails projecting (6)
35. Use care in crossing slippery streets (6)
36. Look out for skidding automobiles (5)
37. Cross the street promptly when signal is given (5)
38. Learn the rules of the road (4)
39. Look out for motorcycles (3)
40. Help keep the walks clean (3)
41. Walk between the white lines (3)
42. Help the driver by giving your signal (1)

Play or Recreational Safety

1. Do not play with shotguns or rifles (43)
2. Do not throw stones or sand (38)
3. Use the public playground (28)
4. Learn to carry pointed articles the right way (26)
5. Do not play dangerous games (25)
6. Avoid pushing even in fun (24)
7. Use care in coasting situations (22)
8. Avoid throwing hard snowballs (21)
9. Use the playground apparatus in the right way (21)
10. Learn to swim for fun—for safety (19)
11. Try to avoid bruises when wading (18)

12. Do not eat wild berries or touch poison ivy (17)
13. Avoid wrestling near cement steps or corners of the building (15)
14. Do not run with articles in the mouth (14)
15. Use care when in boats or canoes (14)
16. Be careful when roller skating (12)
17. Do not climb trees or poles (12)
18. Do not play with glass or tin cans (12)
19. Do not throw tin cans or broken glass into lake (11)
20. Use care in all water situations (9)
21. Pick up rubbish (8)
22. In coasting be sure to steer straight (7)
23. Use the play ground pool for wading or sailing boats (6)
24. Learn life saving devices (6)
25. How to rescue a person from drowning (6)
26. Do not play with sling shots (5)
27. Help keep the playground safe (5)
28. Be careful when sliding (3)
29. Do not use wire tails on the kites (3)
30. Do not play with bean blowers (3)
31. Pick up fruit peelings (3)

Health as a Safety Measure

1. Have the proper light (19)
2. Have the proper food (16)
3. Keep fingers out of the mouth (16)
4. Sleep with windows open (14)
5. Keep clean (14)
6. Use handkerchief for cough or sneeze (12)
7. Acquire the ability to render first aid (12)
8. Care and protection of the eyes (12)
9. Brush the teeth (10)
10. Follow the health rules (9)
11. Avoid spoiled food (8)
12. Have the proper clothing (8)
13. Keep finger nails clean (8)
14. Go to bed early (8)
15. Have correct posture (7)
16. Protect food from insects (7)

17. Have plenty of fresh air and sunshine (6)
18. Wash hands before eating (5)
19. Know the effect of stimulants (5)
20. Avoid getting near poisonous plants (5)
21. Chew food slowly (5)
22. Guard against blindness (5)
23. Do not neglect wounds (5)
24. Know the dangers of trachoma (4)
25. Bathe frequently (4)
26. Remove wraps when inside (4)
27. Care of the feet—proper shoes (3)
28. Know how to avoid tuberculosis (1)
29. Have correct temperature in the rooms (1)

Fire Prevention

1. Do not use gasoline as cleaning fluid or to start fire (46)
2. Bonfires—oily rags (46)
3. Lamps, fireplaces, stoves (43)
4. Candles at Christmas, Hallowe'en (46)
5. Playing with matches (40)
6. Hanging clothes too near fire (38)
7. What to do in case of fire (32)
8. Avoid gas dangers (30)
9. Place hot ashes in metal container (24)
10. Know the dangers of electricity (23)
11. Watch careless people who throw away lighted cigars or cigarettes (21)
12. Avoid accumulation of trash (18)
13. Do not look for gas leak with lighted candle or match (21)
14. Always use a safety match (17)
15. If clothes catch on fire wrap yourself in a rug or blanket (17)
16. Know how to avoid explosions (15)
17. Never carry lighted candles into closets (15)
18. Keep matches in metal box (15)
19. See that fire escapes are not blocked (14)
20. Watch out for hot grease on the stove (12)
21. Locate nearest fire alarm box (13)
22. Do not touch wires with wet hands (10)

23. Always detach electric iron when not in use (10)
24. Do not have swinging gas fixtures in your home (9)
25. Know the meaning and use of conductors and non-conductors (9)
26. Avoid the dangers of having frozen pipes (9)
27. Never leave camp fires unprotected (9)
28. Notify some older person if you discover a fire (8)
29. How to telephone for the fire department (7)
30. Obey the fire signal (6)
31. Avoid burning rubbish (5)
32. Be sure to turn off electric pad when not in use (3)
33. Warn people not to smoke in garages (3)
34. Do not fill oil stove while it is lighted or while anyone is smoking in the room (3)
35. Keep away from the fire (3)

Civic Protection—A Safety Measure

1. Traffic laws (22)
2. Fire department (18)
3. Forestry service (18)
4. Mounted police (16)
5. Protection in industry (13)
6. Use of elevators (10)
7. Water supply (10)
8. Motor policeman (7)
9. Lights on automobiles regulated (7)
10. Factory inspection (7)
11. Self protection in case of fire (6)
12. Required uniforms to be worn in industry (6)
13. Building provisions and codes (6)
14. Dangers in types of employment (6)
15. Loss due to forest fires (6)
16. Lights on coal piles or obstructions in the street (6)
17. Local traffic rules (5)
18. Organized agencies for safety (5)
19. Coast guard (5)
20. Building inspection (4)
21. Parking regulations (4)
22. One-way streets (4)

23. Requirements for guarding machinery (4)
24. Health and the prevention of disease (3)
25. Quarantine laws (3)
26. Speed of automobiles regulated (3)
27. Street lighting (5)
28. Hospital service in factories (3)
29. National safety council (3)
30. Laws regulating employment of women and children (3)
31. American Red Cross (3)
32. Value of fire insurance (3)
33. The service of national bureaus (3)
34. Americanization (3)
35. Army and Navy (2)
36. Workmen's compensation (2)
37. Laws governing sale of explosives (2)
38. Use of semaphores (2)
39. Public nurses (1)
40. Pure food law (1)
41. Food and dairy inspection (1)
42. Transportation of food (1)
43. Sidewalk laws (1)
44. Automobile driver's license (1)

TABLE 11

Vehicular Accidents to Children under 16 Years of Age in School District No. 7, New York City, 1924

	Crossing not at Crossing		At Crossing		Playing Games in Roadway		Running off Sidewalk into Street		Stealing Rides on Vehicles		Roller Skating and Coasting		Bicycle Riding		Collision of Vehicles		Jumping on and off Vehicles in Motion		Other Causes	
	*K	*I	K	I	K	I	K	I	K	I	K	I	K	I	K	I	K	I	K	I
January	1	8	..	5	..	1	..	5	..	3	..	2	..	..	..	2	..	..	..	2
February	..	10	..	2	..	3	..	1	..	1	..	1	..	..	..	1	..	..	..	..
March	..	17	..	3	..	6	..	7	..	2	..	..	..	3	..	2	..	..	..	1
April	2	10	..	7	..	8	..	6	..	2	..	2	..	..	..	1	..	..	..	..
May	1	12	..	7	..	5	2	4	..	..	..	..	..	1	..	2	..	1	..	..
June	1	15	..	10	..	17	1	5	..	2	..	..	..	3	..	1	..	..	..	1
July	1	15	..	7	..	7	..	1	..	..	..	..	..	2	..	6	..	..	..	..
August	..	20	..	5	2	8	..	12	..	5	..	1	..	1	..	5	..	1	..	4
September	..	13	1	7	..	9	..	5	1	4	..	3	2	3	..	5	..	..	..	2
October	..	11	1	10	1	5	1	5	..	1	1	2	..	3	..	..	..	..	..	3
November	..	14	..	3	..	4	..	5	..	..	..	..	..	2	..	1	..	2	..	1
December	1	11	..	4	..	1	1	7	..	2	..	..	..	..	..	..	..	..	1	3

* K—Killed
* I —Injured

TABLE 12

Non-Vehicular Accidents to Children under 16 Years of Age in School District No. 7, New York City, 1924

	Falling over Obstacles and Excavations		Climbing Trees, Poles, Etc.		While at Play		Other Causes		TOTAL ACCIDENTS TABLES 11 AND 12	
	*K	*I	K	I	K	I	K	I	K	I
January	..	..	..	..	..	..	..	..	1	28
February	..	..	..	..	..	..	..	1	..	20
March	..	..	..	..	..	..	..	..	..	41
April	..	..	..	..	..	1	..	..	2	37
May	..	..	..	..	..	2	..	1	3	35
June	..	..	..	..	..	..	..	..	2	54
July	..	1	..	1	..	..	..	..	1	40
August	..	..	..	..	..	..	..	1	2	63
September	..	1	..	..	..	..	..	..	4	52
October	..	..	..	..	..	..	..	..	4	40
November	..	..	..	..	..	..	..	..	..	32
December	..	..	..	..	..	..	..	1	3	30

* K—Killed
* I —Injured

TABLE 13

Vehicular Accidents to Children under 16 Years of Age in School District No. 7, New York City, 1925

	Crossing not at Crossing		At Crossing		Playing Games in Roadway		Running off Sidewalk into Street		Stealing Rides on Vehicles		Roller Skating and Coasting		Bicycle Riding		Collision of Vehicles		Jumping on and off Vehicles in Motion		Other Causes	
	*K	*I	K	I	K	I	K	I	K	I	K	I	K	I	K	I	K	I	K	I
January	..	2	..	4	..	3	..	2	..	..	..	..	..	..	..	..	..	1	..	1
February	..	11	..	4	..	..	..	1	..	3	..	..	..	1	..	3	..	..	..	..
March	..	11	..	2	1	8	..	8	..	3	..	2	..	2	..	4	..	..	..	..
April	1	19	..	5	..	12	..	8	..	3	..	..	..	6	..	1	..	..	1	5
May	..	18	..	4	..	21	..	4	..	1	..	..	..	1	..	2	..	..	..	1
June	1	23	..	3	..	10	1	8	..	1	..	..	..	..	..	1	..	1	..	2
July	..	15	..	10	..	10	..	4	..	1	..	..	..	2	..	4	..	..	..	4
August	..	12	..	6	..	5	..	3	..	1	..	1	..	1	..	4	..	2	..	..
September	1	20	..	9	..	8	..	3	..	2	..	1	..	5	..	4	..	..	..	..
October	..	14	..	11	..	5	..	8	..	3	..	..	..	1	..	..	..	1	1	2
November	..	14	1	13	1	6	..	6	..	1	..	..	..	1	..	..	..	..	..	2
December	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

* K—Killed
* I —Injured

TABLE 14

Non-Vehicular Accidents to Children under 16 Years of Age in School District No. 7, New York City, 1925

	Falling over Obstacles and Excavations		Climbing Trees, Poles, Etc.		While at Play		Other Causes		TOTAL ACCIDENTS TABLES 13 AND 14	
	*K	*I	K	I	K	I	K	I	K	I
January	..	..	..	..	..	..	..	..	..	13
February	..	1	..	..	..	..	..	..	..	24
March	..	..	..	..	..	..	..	2	..	42
April	..	..	..	..	..	..	..	2	2	61
May	..	..	..	..	..	..	..	1	..	52
June	..	..	..	..	..	..	..	1	2	50
July	..	1	..	..	..	..	..	..	..	51
August	..	..	..	..	..	..	..	1	..	36
September	..	..	..	..	..	..	..	..	1	52
October	..	..	..	..	..	..	..	..	1	45
November	..	..	..	..	..	..	..	..	2	43
December	..	..	..	..	..	..	..	..	..	..

* K—Killed
* I —Injured

CHAPTER XII

SPECIFIC OBJECTIVES LOCATED IN TEXT BOOKS IN SUBJECT-MATTER FIELDS

Selection of text books for analysis. The assumption is made that much safety material is already included in our accepted text books. In view of this fact, an analysis was made of thirty-three text books in three subjects, General Science, Civics and Home Economics, usually taught in the upper grades of the elementary school. The number of pages devoted to topics which lend themselves to safety teaching also was ascertained.

Analysis of texts in General Science. The first step in the procedure followed was to use the analysis already made by Webb[1] for General Science texts and to select from his list topics that might easily pertain to safety. His criteria of selection were based on advertisements and reviews in school journals. Webb found that the eighteen texts analyzed contained a total of 6,638 pages of instruction. The pages were examined one by one and an entry made on a card, each being labeled with the topic, name of book, and page number of the topic to permit future identification. The topics were then arranged under headings of the generally recognized branches of scientific knowledge—Physics, Botany, Physiography, Physiology, Chemistry, Astronomy, Hygiene and Household Arts.

With Webb's classification as a basis, each item was verified by being checked against two books[2] in General Science in order to note the nature of the safety material that might be included in each topic. The writer fully recognized the possibility that some worth while safety material may have been omitted by this method of selection, but since the purpose was to show that considerable safety material is already available in text books designed for use in the upper grades, the listing of this material is offered as merely illustrative of the possibilities in this field.

[1] Webb, Hanor A. "General Science Instruction in the Grades," George Peabody College for Teachers. Nashville, Tenn. 1921, pp. 9-15.

[2] Caldwell, Otis W. and Meier, W. H. D. Open Doors to Science. Ginn & Co., New York, 1925.

[3] Caldwell, Otis W. and Eikenberry, W. L. Elements of General Science. Ginn & Co., 1924.

TEXT BOOKS IN GENERAL SCIENCE

Physics	*Books*	*Pages*	*Safety Teachings*
Transfer of Heat	18	252.5	Why electric light bulbs give off heat. Electric light bulbs should never be covered with paper shade
Thermometers	18	84.5	What is the best temperature to maintain in the house and school room? 68 degrees—70 degrees
Levers	14	55	To know the right way to lift heavy articles and thus avoid strain
Pumps and their uses	13	43	The proper location of the pump in order to insure pure drinking water.
Boiling and freezing points	12	54.5	How to keep foods. Why some foods are cooked in boiling water and others require freezing
Principles of ice making	12	54.5	To keep foods in hot weather
Dynamos and motors	11	48	Contains the power to run vacuum cleaners, trolleys, and so forth. Dangers of live wires.
Expansion of heat	11	38	Dangers of escaping steam
Principles of artificial lighting	10	71	Care of the eyes. Never attempt to read with direct light on the page
Water and wind power	10	50	Generates electricity—the dangers of electricity
Electric lighting and heating	10	38.5	Dangers of defective wiring Electric heating devices—the electric iron, etc.
Friction producing heat	9	18.5	Fires started by friction
Distillation	9	14.5	A way of getting pure water
Gas engines	8	21	Dangers of carbon monoxide
Insulation	6	13.5	Protection afforded by covered copper wires
Explosions, energy of expanding gases	4	5.5	Explosions in the home—evaporation of gases in contact with lighted match
Electrical appliances fuses, switches	3	21	Dangers from overheated circuits. Protection of wiring systems. The use of fuses for safety
Total		883	

Physiography	*Books*	*Pages*	*Safety Teachings*
Weather forecasts and maps	16	93	To judge the advisability of travel knowing the weather prediction. How to dress properly knowing the weather reports
Ground water, caves, springs	14	65.5	Methods of securing pure water
Mines, their construction, mining	2	3	Mines designed for safety in so far as is possible
Total		161.5	

Botany	*Books*	*Pages*	*Safety Teachings*
Yeasts, molds	16	60.5	Yeasts and molds enter food materials and fruit juices—sour milk, spoiled fruits, etc.
Bacteria, structure of (not hygiene)	10	33.5	Bacteria may be friend or enemy of man. Bread yeast is considered good while spoiled foods are to be avoided. How to can and preserve food—canning, salting, pickling, smoking, and so forth
Higher fungi—toad stools	6	14	Danger of mistaking them for mushrooms—they belong to the same species
Total		108	

Physiology and Hygiene	*Books*	*Pages*	*Safety Teachings*
Bacteria and contagious diseases	15	206	Good health a protection against bacteria. A duty to protect ourselves and others
Pure water supply and how obtained	15	98	Importance of pure water supply
Insect carriers of disease	13	54.5	House flies carry bacteria Disposal of house flies Cleanliness and disease
Digestion	12	79.5	Eat the right kind of food
The circulation	10	42	The route of circulation How food gets into the blood
Sewage disposal	7	35.5	Impurities in the water Sources of bacteria in lakes and rivers Methods of securing pure water. Filter beds and reservoirs, and so forth
First Aid	6	34.5	What to do when accidents have happened
Sanitary plumbing	4	17.5	Needed to maintain health
Pure air — harmfulness of dust	5	12	Dust the cause of some diseases
Hygiene, miscellaneous discussion of	3	26.5	Health information
Total		606	

Household Arts and Scienee	*Books*	*Pages*	*Safety Teachings*
Composition of food, carbohydrates, proteins, fats	15	118	Proper food, diet
Fuel value of foods Dietary	11	76.5	Knowledge of proper food
Preservation of foods	7	27.5	Safety—prevent the spoiling of food
Cleaning of textiles	6	28	Care of the clothes. Proper cleaning fluids. Avoid use of gasoline
Textiles and clothing	6	17	Proper clothing. Why we wear wool, cotton, linen, and so forth
Effect of cooking on food	6	17.5	As an aid to digestion—a safety measure
Soap making	5	17.5	For washing purposes thus guarding against disease
Food, adulteration of	3	15	Safe and unsafe practices—Pure Food and Drug Act—to protect the purchaser
Dyeing	3	5.5	Dangers from certain dyes
Household management	2	10	Care of the home
Total		332.5	

Analysis of Textbooks in Civics. Following the proeedure of Webb, the writer analyzed ten textbooks in Civies, with a total of 3,958 pages devoted to instruction. The texts were seleeted on the basis of reeeney. One book only was dated 1917 and the others ranged from 1920-1925. Eaeh text was examined page by page and the topics reeorded upon cards together with the title of the book and the number of pages devoted to the topie. It was found that the various safety topies should be elassified under the headings of Health Protection, Fire Protection, Protection of Life and Property (Poliee), Reereational Faeilities and Miseellaneous Items.

TEXT BOOKS IN CIVICS

	Health Protection	*Books*	*Pages*
1.	Pure water	10	48.5
2.	Pure food	8	31
3.	How science prevents contagion	7	17.5
4.	Fresh air	7	15
5.	Street cleaning	7	21.5
6.	Disposal of city waste (garbage)	7	36
7.	Health campaigns. Health rules	7	11.5

	Health Protection	*Books*	*Pages*
8.	City, State and National Health	7	11.5
9.	Problem of sewage	6	33
10.	Sanitary inspection of buildings	6	19.5
11.	Protection by community action	5	30.5
12.	Healthful conditions of work	5	13
13.	Quarantine laws	4	9.5
14.	Administration of public health work	4	5.5
15.	Hospitals, Clinics, etc	3	7
16.	Personal responsibility for health	3	18
17.	Methods of obtaining pure water	3	14
18.	Dangerous trades	2	8
19.	Avoid wasting water	2	7
	Total		357.5

	Fire Protection	*Books*	*Pages*
1.	Fighting fires	6	32.5
2.	How to prevent fires	6	24
3.	Organization of the fire department	5	15.5
4.	Chief causes of fires	5	11.5
5.	Organization of state and federal firemen	4	13.5
6.	Forest fires	3	5.5
7.	Fire insurance	1	2
	Total		104.5

	Police Protection of Life and Property	*Books*	*Pages*
1.	Duties of the policemen	9	64.5
2.	Modern street lighting	5	14.5
3.	Individual responsibility for life and property	5	11
4.	State and federal police	4	18.5
	Total		108.5

	Recreational Facilities	*Books*	*Pages*
1.	Why we need playgrounds	8	57
2.	Public provisions for playgrounds	6	23
	Total		80

	Miscellaneous Items	*Books*	*Pages*
1.	Honest weights and measures	2	4
2.	Americanization	1	6.5
3.	Weather maps	1	1.5
	Total		12

Analysis of textbooks in Home Economics. Five textbooks in Home Economics were also analyzed in order to find material that was applicable to the teaching of safety. These five texts were selected from a list of nine that were judged the textbooks most commonly used in America.[1] There seems to be considerable variation in the number of topics and the space devoted to each topic

[1] Home Economics in American Schools Supplementary Education Monographs. Vol. II, No. 6, October, 1920. Whole No. 14, page 20.

was small. The major portion of each text was given over to recipes which were not applicable for our purposes. However, the following items were selected as having safety value and are listed together with the number of textbooks in which each topic appeared and the number of pages devoted to each.

TEXT BOOKS IN HOME ECONOMICS

	Cooking, Marketing, Sanitation and so forth	*Books*	*Pages*
1.	Fruit and its preservation (Methods of preparing and preserving)	5	36
2.	Clean milk	5	27
3.	Care of the refrigerator and kitchen sink	5	15.5
4.	Principles and methods of preparing vegetables	4	18.5
5.	The use of common fuels	4	29
6.	The care of food materials	4	15
7.	The care of cooking apparatus	3	31.5
8.	The technique of food preparation (Emptying contents of cans)	4	16.5
9.	Fresh and cold storage eggs	3	5.5
10.	How to select meat and poultry	3	13
11.	How to select fish and other meat substitutes	3	7.5
12.	Kitchen furnishings	2	10
13.	Disposal of waste food	2	4
14.	Utensils	1	7.5
15.	Economy of fuel	1	3
16.	Care of food after cooking	1	1
17.	Care of left overs	1	1
	Total		241.5

	Housewifery	*Books*	*Pages*
1.	Equipment and methods of cleaning	3	9
2.	Care of rooms	2	6.5
3.	Household insects	3	2.5
4.	Laundering	2	13.5
5.	Precautions against fire	1	1
6.	Household repairs	1	1
	Total		33.5

The reason for the omission of a column entitled "Safety Teachings" in connection with the Civic and Home Economics texts is that these two subjects do not use the technical language which is found in General Science texts and further explanation of topics was not thought to be necessary.

It must also be understood that the safety suggestions given are by no means the only ones found in the corresponding topics in General Science. The listing of all topics might easily constitute a study in itself. The examples offered are merely illustrative of the possibilities of safety teaching.

CHAPTER XIII

PROPOSED COURSE OF STUDY IN SAFETY EDUCATION

Method of constructing course of study. In order to have in convenient form the safety material which is found to be common to the courses of study examined and to show the various relationships and ramifications which may be established, a suggested course of study for the eight grades of the elementary school is presented in outline form.

No plea is made that the basis upon which the course of study is formulated is wholly objective. The method of investigation depends too much upon subjective judgment to permit of complete objective evidence. However, such objective data as could be secured for this type of study were utilized.

The statement has been made that our "changed economic and social conditions constantly create new curriculum problems and for this reason we shall never be able to finish the task of constructing our curriculum on a scientific basis. In the meantime, our schools are in operation and there is need for the best course of study which can be made at the present time. Those in charge of our schools cannot afford to wait even until the scientific studies now in progress are completed. Neither can they engage in extended investigations preliminary to the making of a course of study. Their problem is to provide the best working specifications they can for the next year. Consequently, the maker of a course of study should approach his task with a practical attitude."[1] This has been followed throughout the study.

Although the proposed course in safety as outlined is based primarily upon the frequency of mention of topics for each grade as found in the courses of study examined, an attempt was made to include such material as will meet the needs peculiar to a given community and to utilize the educational resources of the community wherever possible. It is assumed that individual teachers must be responsible for the approach to the subject matter, for the use and adaptation of the materials for the community needs, and for the organization of the instructional units for the pupils.

[1] Monroe, W. S. Making a Course of Study. Educational Research Circular, No. 35, University of Illinois, 1925, p. 9-10.

Topics suggested for different grades. In the primary grades it is suggested that effort be directed to the formation of habits of safe conduct. The topics treated are obviously of a simple type such as crossing the street, watching the traffic officer, getting on and off street cars, and so forth. These are personal topics and in the main require that the action of the child be directed toward his own safety.

The intermediate and upper grades offer a wider range of material and hazards of greater complexity are discussed. The aim is to develop in the child a sense of responsibility not only for himself but for all with whom he comes in contact. This idea of safety beginning with the individual extends to his playmates, the community and finally to the state and nation.

No assumption is made that by following such a course as the one outlined the number of accidents to school children will be entirely eliminated. Too many factors are involved to make such an assumption. It is hoped, however, that the teaching of safety consistently throughout all the years of school life will tend to increase the consciousness of children toward dangerous situations and to furnish them with such knowledge as will enable them to meet intelligently and successfully such situations when they arise.

When time enough has elapsed for an accurate analysis of the different accident situations together with the causes for these accidents, we shall then be in a better position to secure objective evidence as to the worth of such a course of study as the one proposed in this report.

Checking of items in course of study. In order to secure some evaluation of the items of safety learnings, it was decided to check each item included in the proposed course of study for the First Grade with the criteria or with the objectives of safety education as given in Chapter 8. The objectives of safety education seem to group themselves in the following ways:

Group A

Concerning the individual and his personal safety	Selecting safe things to do Doing things in safe ways Thinking what is safe to do

Group B

Concerning the responsibility of the individual for the safety of those with whom he comes in contact	Preventing others from being hurt Helping others who are hurt Thinking and planning for the safety of others

Group C

Concerning attitudes and insight into the broader safety relationships

Contributing to the general safety of the community

Investigating and learning how situations are made safe, comfortable and convenient

Investigating and learning to see how conditions may be made more safe, comfortable and convenient

It was decided to check only the items in the First Grade because the spiral treatment of subject-matter permits of great repetition. Furthermore, the first grade serves as a basis for future learnings and includes the majority of items. Seven persons who are interested in such fields as educational psychology, elementary education, nursing education, primary education, elementary school principalship, normal school instructor, and one interested in educational publications cooperated in checking the items. The purpose of this work is to show a technique which may be used in evaluating, weighing and eliminating items on the basis of judgments. It is not intended that this list even for the first grade will be taken over and used without securing additional judgments. Those cooperating were given the following directions.

Directions for checking. "Will you please read through each item of safety learning in the proposed course of study for the first grade and check it against the safety objectives by placing a check mark (√) in the column marked (a) if in your judgment the item relates primarily to individual or personal safety, in the column marked (b) if relating to responsibility for the safety of others, and in column (c) if relating to the larger group safety relationships? Some items may be checked in several columns."

Results of checking. The results of checking are found in the columns on the right hand side of the items of safety learnings. The numbers in parentheses at the right of each item represent the frequency of mention of that item for that particular grade as found in seventeen courses of study in safety education.

A PROPOSED COURSE OF STUDY IN SAFETY EDUCATION FOR THE ELEMENTARY SCHOOL—FIRST GRADE

GRADE OBJECTIVE

To help keep our homes safe
To go to and from school safely

CHECKS ON SAFETY LEARNINGS (1)

I. Itemized Safety Learnings *A. Home Safety*	Checked by	1			2			3			4			5			6			7		
		a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
1. Keep away from tubs and pails of hot water (14)		x			x			x			x			x			x			x		
2. Put playthings away so others will not trip (12)			x			x			x			x	x		x	x		x			x	
3. Do not stand in rocking chairs (12)		x			x			x			x			x			x			x		
4. Straighten rugs so others will not trip (11)			x			x			x			x	x		x			x			x	
5. Keep off stairways while at play (10)		x			x			x			x			x			x	x		x	x	
6. Learn how to carry sharp or pointed articles (scissors, knives, lollipops) (10)		x			x	x		x			x	x		x	x		x	x		x	x	
7. Do not climb in high places (10)		x			x			x			x			x			x			x		
8. Use care in handling matches (9)		x	x	x	x	x	x	x	x			x	x	x	x	x	x	x		x	x	x
9. Pick up rusty nails and tin cans (8)		x	x	x		x	x		x			x	x	x	x	x		x	x			x
10. Keep articles from mouth, nose and ears (7)		x			x			x			x			x			x			x		
11. Help put sand or ashes on icy walks in front of the house (7)		x	x	x	x	x	x		x		x	x		x	x	x	x	x	x			x
12. Pick up trash which accumulates and place in proper receptacle (6)			x	x	x	x	x		x			x	x	x	x	x	x	x	x			x
13. Keep yard free from broken glass (5)		x	x	x	x	x		x	x		x	x			x	x	x	x			x	
14. Keep away from fires (5)		x			x			x			x				x		x			x		
15. Report side walks in need of repair (5)				x	x	x	x	x	x			x	x	x			x	x	x			x
16. Do not stick feet out so others will trip (5)			x			x			x			x			x			x			x	

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1. Adapted from Zirbes, Laura, "Practice Exercises and Checks on Silent Reading in The Primary Grades," Lincoln School Publication, New York, 1925, p. 23.
a—Refers to the individual and his personal safety.
b—Refers to the responsibility of the individual for the safety of others.
c—Refers to attitudes and insight into larger safety relationships.

A PROPOSED COURSE OF STUDY IN SAFETY EDUCATION FOR THE ELEMENTARY SCHOOL—FIRST GRADE—*Continued.*

A. Home Safety—Continued	Checked by	1			2			3			4			5			6			7		
		a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
17. Never play practical jokes (4)			x			x			x			x			x			x			x	
18. Pick up pins, needles, victrola needles and put in a safe place (4)		x	x	x	x	x		x	x		x	x		x	x			x			x	
19. Pick up fruit peels (3)			x		x	x		x	x		x	x	x	x	x			x	x		x	
20. Do not pet strange animals (3)			x		x	x		x	x			x	x	x				x	x		x	
21. Do not sit on window sills—you may lose your balance and fall (2)		x	x		x			x			x			x			x			x		
22. Do not lean against glass doors (2)		x	x		x			x			x			x			x			x		
23. Use the slide in the play ground—not the banisters (1)		x			x			x			x			x			x			x		
24. Do not lean against the screens (1)		x			x			x			x			x			x			x		
25. Keep away from pans and handles extending over the fire (1)		x			x			x			x			x			x			x		
26. Never taste the contents of bottles (1)		x			x			x			x			x			x			x		
27. Do not slide on polished floors (1)		x			x			x			x			x			x			x		
B. Street Safety																						
1. Avoid running into street after hat or ball (23)		x			x			x			x			x			x			x		
2. Crossing the street carefully (18)		x			x			x			x			x			x			x		
3. Cross at the crossings used (15)		x			x			x			x			x			x			x		
4. Learn safety signals (13)		x			x			x			x			x			x			x		
5. Watch the traffic officer (12)		x			x			x			x			x			x			x		
6. Look both ways in crossing street (11)		x			x			x			x	x		x			x			x		
7. Avoid hitching (11)		x						x				x	x	x			x			x		
8. Pick up fruit peelings (8)		x	x	x	x	x	x	x	x		x				x	x		x	x		x	
9. Avoid cutting corners (7)		x			x			x			x			x			x					x
10. Refuse rides from people you do not know (6)		x			x			x			x			x			x			x		

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c—Refers to attitudes and insight into larger safety relationships.

A PROPOSED COURSE OF STUDY IN SAFETY EDUCATION FOR THE ELEMENTARY SCHOOL—FIRST GRADE—*Continued.*

B. Street Safety—Continued	Checked by	1			2			3			4			5			6			7		
		a	b	c	a	b	e	a	b	c	a	b	c	a	b	c	a	b	e	a	b	c
11. Avoid running into street from behind parked cars (6)		x			x			x			x			x			x			x	x	
12. Keep off handle bars (5)		x			x			x				x		x			x	x		x		
13. Hold umbrella the right way (5)			x		x	x			x			x	x		x			x	x		x	
14. Avoid roller skating in the streets (4)		x			x			x	x		x		x	x	x			x	x	x		
15. Avoid playing near railroad tracks (4)		x			x			x			x			x			x			x		
16. When crossing railroad tracks look both ways (4)		x			x			x			x			x			x			x		
17. Keep from using scooters and express wagons in the street (4)		x			x			x	x		x			x	x		x	x	x	x		
18. Play in safe places (4)		x			x			x			x			x			x			x		
19. Look out for street cars (4)		x			x			x			x			x			x			x		
20. How to get off street cars (4)		x			x			x			x			x			x				x	
21. While waiting for street car, stand in safe place (3)		x			x			x			x			x			x			x		
22. Keep on the sidewalk (3)		x			x			x			x			x			x			x		
23. Learn own name, name of street, house number (3)		x			x			x			x			x			x			x		
24. How to get on a street car (3)		x			x			x			x			x			x				x	
25. Avoid putting head, arms out of windows of street car (3)		x			x			x			x			x			x			x		
26. Avoid picking up coal along the railroad tracks (3)		x			x			x			x			x			x			x		
27. Look out for automobiles, busses and motorcycles (3)		x			x			x			x			x			x			x		
28. Watch for the driver's signal (3)		x			x			x			x			x			x			x		
29. Use care in crossing slippery streets (2)		x			x			x			x			x			x	x	x	x		
30. Use proper railroad crossing (2)		x			x			x			x			x			x					x

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A PROPOSED COURSE OF STUDY IN SAFETY EDUCATION FOR THE ELEMENTARY SCHOOL—FIRST GRADE—*Continued.*

B. Street Safety—Continued	Checked by	1			2			3			4			5			6			7		
		a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
31. Avoid standing on platform of trains (2)		x			x			x			x			x			x			x		
32. Keep off strange automobiles. trucks (2)		x			x			x			x			x			x			x		
33. Watch out for bicycles (2)		x			x			x	x		x	x		x	x		x			x		
34. Keep away from fallen wires (1)		x			x			x			x			x			x				x	
35. Avoid stumbling over objects on the walk (1)		x			x			x			x			x			x			x		
C. School Safety																						
1. Handle scissors and other pointed articles correctly (do not run with them in the hand) (12)		x	x		x	x		x	x		x	x		x	x		x	x			x	
2. Do not go up steps two at a time (6)		x			x			x			x			x	x		x	x		x		
3. Use the aisles properly (6)		x	x		x	x		x			x	x		x	x		x	x		x	x	
4. Do not run through halls or corridors (5)		x	x		x	x		x			x	x		x	x		x	x			x	
5. Know what to do in case of fire drill (4)		x	x	x	x	x		x	x		x	x	x	x	x		x	x				x
6. Use the doors properly (4)		x			x	x		x	x		x			x	x		x	x				x
7. Help keep the school yard clean (4)		x		x	x	x	x	x	x				x	x	x	x	x	x	x			x
8. Use care in going up and down stairs (3)		x			x	x		x	x		x			x	x		x	x		x		
9. Help make the building safe (2)				x	x	x		x	x		x	x	x	x	x		x	x				x
10. In passing keep to the right (2)				x	x	x		x	x		x	x		x	x		x	x	x		x	
11. Avoid practical jokes (2)			x		x	x			x		x			x	x			x			x	
12. Avoid playing dangerous games (1)		x	x		x	x		x	x		x	x		x	x			x		x		
13. Help keep the floors clean (1)					x	x		x	x		x	x		x	x		x	x			x	
14. Keep feet underneath desks so that others will not trip (1)			x		x	x			x		x	x			x			x			x	
D. Play Safety																						
1. Use the apparatus the right way (8)		x	x		x			x	x		x	x		x	x		x	x		x	x	
2. Use the playground as a place to play (6)		x			x			x	x		x	x	x	x			x			x		

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b—Refers to the responsibility of the individual for the safety of others.
c—Refers to attitudes and insight into larger safety relationships.

A PROPOSED COURSE OF STUDY IN SAFETY EDUCATION FOR THE ELEMENTARY SCHOOL—FIRST GRADE—*Continued.*

D. Play Safety—Continued	Checked by	1			2			3			4			5			6			7		
		a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
3. Use care in handling pointed articles (6)		x	x		x	x		x	x		x	x		x	x		x	x		x	x	
4. Do not push (4)			x		x	x			x		x	x	x	x	x			x			x	
5. Do not throw stones or sand (4)			x		x	x			x			x	x		x			x			x	x
6. Do not play dangerous games (4)		x	x		x	x		x	x		x	x		x	x			x		x		
7. Use care in coasting situations (4)		x	x		x	x		x	x		x	x	x	x	x		x	x		x	x	
8. Do not play with glass or tin cans (4)		x			x			x			x			x	x		x			x		
9. Use the playground pool for wading (4)		x			x			x			x	x		x			x			x		
10. Use the playground pool for sailing boats (4)		x			x			x	x		x			x			x			x		
11. Avoid throwing hard snowballs (3)			x		x	x			x			x	x		x			x			x	
12. Do not skate or slide on thin ice (3)		x			x			x			x			x			x			x		
13. Help keep the playground safe (2)				x	x	x				x	x	x	x	x	x		x	x				x
14. Pick up rubbish on the playground (1)				x	x	x	x			x	x	x		x	x	x	x	x	x			x
15. Do not run with articles in the mouth (1)		x			x	x		x			x			x			x			x		
16. Avoid wrestling near cement steps (1)		x			x	x	x	x			x	x		x	x		x	x		x		
17. When wading try to avoid bruises (1)		x			x			x			x			x			x			x		
18. Learn to swim (1)		x			x	x		x	x		x	x		x	x		x	x	x			x
19. Do not throw tin cans or glass into the lake (1)			x	x	x	x	x			x	x	x	x	x	x		x	x	x			x
20. Avoid running into the street from the playground (1)		x			x			x			x			x			x			x		
21. Be careful with bean blowers (1)			x		x	x			x			x	x		x			x			x	
22. Be careful with sling shots (1)			x		x	x			x			x	x		x			x			x	
E. Health Safety																						
1. Keep fingers out of mouth (6)		x			x			x			x			x			x			x		
2. Keep clean (5)		x			x			x	x		x	x	x	x	x		x	x			x	
3. Sleep with window open (5)		x			x			x			x			x			x			x		
4. Keep finger nails clean (4)		x			x			x			x			x	x		x			x		

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c—Refers to attitudes and insight into larger safety relationships.

A PROPOSED COURSE OF STUDY IN SAFETY EDUCATION FOR THE ELEMENTARY

A PROPOSED COURSE OF STUDY IN SAFETY EDUCATION FOR THE ELEMENTARY SCHOOL—FIRST GRADE—*Continued.*

E. Health Safety—Continued	Checked by	1			2			3			4			5			6			7		
		a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
5. Brush teeth regularly (4)		x			x			x			x			x	x		x			x		
6. Use handkerchief to cover cough or sneeze (4)			x		x	x			x			x	x		x	x		x	x		x	x
7. Wash hands before eating (3)		x			x			x			x			x	x	x	x			x		
8. Go to bed early (3)		x			x			x			x			x			x			x		
9. Chew food slowly (3)		x			x			x			x			x			x			x		
10. Eat proper food (3)		x			x			x			x			x			x			x		
11. Wear proper clothing (3)		x			x			x			x			x			x			x		
12. Bathe regularly (2)		x			x			x			x			x	x		x	x	x	x		
13. Care of the eyes—do not have too bright a light (2)		x			x			x			x			x			x			x		
14. Try to have correct posture (1)		x			x			x			x			x			x			x		
15. Remove wraps while remaining indoors (1)		x			x			x			x			x			x			x		
16. Have plenty of fresh air and sunshine (1)		x			x			x			x			x			x					x
17. Follow the health rules (1)		x			x			x			x			x	x	x	x	x	x	x	x	x
18. Avoid eating spoiled foods (1)		x			x			x			x			x			x			x		
19. Avoid blindness (1)		x			x			x			x			x	x		x			x		
20. Avoid contacts with those suffering from trachoma (1)		x			x	x	x	x			x			x			x	x		x		
21. Care of feet—wear proper shoes (1)		x			x			x			x			x			x			x		
22. Do not neglect wounds (1)		x			x			x			x			x			x			x		
23. Protect food from flies (1)		x	x		x	x	x	x			x					x	x	x	x	x	x	x
24. Avoid exposure (1)		x			x			x			x			x			x			x		
25. Avoid people with colds (1)		x			x	x	x	x			x	x	x	x			x			x		x
F. Fire Prevention																						
1. (Causes of Fire) Open fire places, overturned lamps (15)				x	x	x	x	x	x		x		x	x	x	x	x	x		x		

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c—Refers to attitudes and insight into larger safety relationships.

A PROPOSED COURSE OF STUDY IN SAFETY EDUCATION FOR THE ELEMENTARY SCHOOL—FIRST GRADE—*Continued.*

E. Fire Prevention—Continued	Checked by	1			2			3			4			5			6			7		
		a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
2. Lighted candles at Christmas or Hallowe'en (11)				x	x	x	x	x	x		x		x	x	x	x	x	x			x	
3. Oily rags not placed in metal container (10)				x	x	x	x			x			x	x	x	x	x	x			x	
4. Use of gasoline as cleaning fluid or to start a fire (9)				x	x	x	x	x	x		x		x	x	x	x	x	x			x	
5. Playing with matches (9)				x	x	x	x	x	x				x	x	x	x	x	x		x		
6. Hanging clothes too near the fire (8)				x	x	x	x	x	x				x	x	x	x	x	x		x		
7. Playing with fire (4)				x	x			x			x		x	x	x	x	x			x		
8. Matches not kept in safe place (4)				x	x	x	x	x	x				x	x	x	x	x	x			x	
9. Escaping gas (4)				x	x	x			x		x			x	x	x	x	x			x	
10. Careless people throwing away lighted matches and cigarettes (4)				x	x	x	x			x			x	x	x	x	x	x	x			x
11. Accumulation of trash in attic or cellar (3)				x	x	x	x			x			x	x	x	x	x	x		x		
12. Explosions (different kinds) (3)				x	x	x				x			x	x	x	x	x	x				x
13. Hot ashes placed in wooden boxes (2)				x	x	x	x			x			x	x	x	x	x	x			x	
14. Carrying lighted candles into closets (2)				x	x	x	x	x	x		x		x	x	x	x	x	x			x	
15. "Safety match" not used (2)				x	x	x	x	x	x				x	x	x	x	x				x	
16. Electric irons not disconnected (1)				x	x	x			x				x	x	x	x	x	x			x	
17. Burning rubbish (1)				x	x	x	x			x			x	x	x	x	x	x				x
18. Frozen pipes (1)				x	x	x				x			x	x	x	x	x	x		x		
19. Hot grease on the stove (1)				x	x	x	x	x	x					x	x	x	x			x		
What to do in case of fire																						
1. Knowledge of what to do in various situations (4)		x	x	x	x	x	x			x							x	x	x			x
G. City Protection																						
1. Fire Department (2)				x	x	x	x			x			x	x	x	x	x	x	x			x

The numbers in parentheses at the end of each item are the frequencies of mention for this item in this particular grade as found in 17 courses of study in safety.
1. Adapted from Zirbes, Laura, "Practice Exercises and Checks on Silent Reading in The Primary Grades," Lincoln School Publication, New York, 1925, p. 23.
a—Refers to the individual and his personal safety.
b—Refers to the responsibility of the individual for the safety of others.
c—Refers to attitudes and insight into larger safety relationsips.

II. Activities

A. *Reading*

Using games in which printed names of safety objects or activities are needed

Labeling safety items and reading labels

Making bulletins or helping to make them

Composing sentences for safety chart and reading them

Recognizing safety rhymes on chart and repeating them

Reading captions, titles and names of safety books

Reading and following safety directions

B. *Manual Arts*

Constructing car tracks, sidewalks, street car. Showing how to avoid accidents

Arranging miniature streets. Constructing houses, apartments, stores, market, marking dangerous spots

Studying street activities. Making street cars, bus lines, subways, elevated, trucks, trains, automobiles, motorcycles, bicycles, scooters, etc.

Discussing ways of helping safety workers; street cleaners, traffic officers, firemen

Making caps, ladders, street cleaning apparatus

Making hygiene or health booklet, cutting out cows, milk bottles, etc.

C. *Social Studies*

Discussing responsibility of children to each other and to members of their family

Visiting the neighborhood. Children observe and learn the names of car lines, public buildings, places of interest

Observation and visiting fruit and vegetable store, talking to the owner

Making of fruit and vegetable chart from pictures in magazines. Selecting proper food

Observations of passing vehicles, teams, street cars, motor cycles and comments upon these

D. *Language Arts*

Naming safe and unsafe toys or objects

Recognizing the appearance of the poison label and knowing its meaning

Knowing the meaning of "Entrance," "Exit," "Fire

Drill'' and the red and green lights which mean ''stop'' and ''go''

Knowing the meaning of a red flag on the rear of a truck, or a red lantern on the sidewalk or street

Knowing the meaning of colored lights on street cars, subways and elevated trains and boats

Learning safety slogans, songs, rhymes, conundrums, etc.

Playing safety games requiring giving directions or answering questions

Teaching what safety means to the non-English speaking child

Telling of safety incidents carried on in the home

E. *Spelling*

Ability to write name

Ability to write few simple words such as stop, go, look, etc.

F. *Music*

Ability to sing simple songs on safety topics

G. *Art*

Drawing fruits and vegetables to be included in proper diet

Drawing of semaphores and other safety devices

Making of posters by drawing or cutting

H. *Industrial Arts*

Discussion and experimentation to learn proper care and use of materials and tools—scissors, paint, brushes, saws, hammers

I. *Numbering*

Incidental number work

Counting games (''Ten Naughty Little Boys'' in Bulletin of Safety Education, September 15, 1924, p. 3)

J. *Nature Study*

Observation and general information of destructive plants (tumble weed, poison ivy)

Protective measures of birds and animals (heavier coats in winter, plumage to match environment)

K. *Health*

Discussing proper health habits

Checking on health habits, posture

III. Outcomes

The outcomes to be expected are certain habits, skills, knowledges and attitudes which have resulted from the activity

A. *Reading*

To read and comprehend the safety directions
To locate safety items in posters, papers or advertisements
To recognize safety directions without the word "safety" being used

B. *Manual Arts*

To handle scissors and other pointed articles correctly

C. *Social Studies*

To tell his own name and that of his family
To use scissors, pencils, chalk, paper; cut, saw, hammer without danger to self or others
To stand well and walk up and down stairs correctly
To use drinking fountain, play apparatus skillfully
To tell names of vehicles
To know dangers of certain vehicles
To tell something of parts of machines

D. *Language Arts*

To describe a picture, poster, or scene witnessed
To tell name, street, parents' names
To play safety rhymes
To take a speaking part in a play
To tell what has been read, directed by questions
To recognize safety warnings, directions, etc.

E. *Spelling*

To write simple words connected with safety

F. *Music*

To sing simple safety songs
To respond to various types of music

G. *Art*

To recognize colors
To represent fairly well certain safety ideas by drawing, cutting, modelling, sand table play, etc.

H. *Industrial Art*

To use care in cutting and pasting
To use tools properly

Habits of protecting floor when using paint, clay, water
To pick up all waste materials

I. *Numbering*
To count and recognize number of objects, etc.

J. *Nature Study*
To have some knowledge of nature based upon the authority of science, simply expressed in untechnical terms

K. *Health*
Drinking milk and no tea or coffee
Eating fruit every day
Washing hands before eating
Using handkerchief properly
Brushing teeth at least once a day
Bathing more than once a week
Playing outdoors every day

SECOND GRADE

GRADE OBJECTIVE

To make and keep our homes safe
To help make the school safe
To cooperate in preventing accidents which occur going to and from school

I. ITEMIZED SAFETY LEARNING

A. *Home Safety*
(Items listed in previous grade)

B. *Street Safety*
1. Avoid running into the street after ball or hat (17)
2. How to get on and off street cars (11)
3. Do not run out into the street from behind parked cars (11)
4. Watch the traffic officer (9)
5. Cross at the crosswalk (9)
6. Use care in crossing the street (8)
7. Avoid "hitching" (8)
8. When carrying an umbrella, be sure to hold it the right way (7)
9. Look both ways before crossing the street (6)
10. Learn the safety signals (5)
11. Refuse rides from people you do not know (5)
12. Avoid "jay walking" (4)
13. Do not play with scooters in the street (4)
14. Keep on the sidewalk (3)
15. Learn new safety signals (1)
Go—stop—look—listen—watch your step—avoid danger—wait until the car stops

C. *School Safety*
1. Do not run with pointed articles (13)
2. Keep feet under desks, tables (9)
3. Do not run through the corridor (7)
4. Help make the school safe (4)
5. Handle scissors and pointed articles the right way (4)
6. When passing through the halls and on the stairways, keep to the right (3)
7. Pick up pens, pencils, papers (3)

8. Help keep the floors clean (2)
9. Put materials neatly away (2)
10. Help clear the room for running games (2)

D. *Playground Safety*

(Considering the safety of others)

1. Do not throw stones or sand (16)
2. Play games carefully—no pushing or tripping of others (11)
3. Do not use roller skates, scooters, or express wagons in the street (8)
4. Do not play dangerous games (8)
5. Avoid wrestling near cement steps or corners of the building (8)
6. Use the public playground—a safe place to play (7)
7. Use the playground apparatus the right way (6)

E. *Health*

1. Keep clean (4)
2. Eat the proper food (3)
3. Wear proper clothing (3)
4. Have plenty of fresh air and sunshine (3)
5. Use handkerchief (3)
6. Brush teeth (2)
7. Clean nails (2)
8. Stand correctly (2)
9. See to proper lighting adjustment of shades (2)
10. Get plenty of fresh air and sunshine (1)
11. Remove wraps when inside (1)

F. *Fire*

(Causes of fire)

1. Hanging clothes too near the fire (11)
2. Candles—Christmas—Hallowe'en, Birthdays (11)
3. Bonfires, oily rags, rubbish (11)
4. Ashes not kept in proper receptacle (7)
5. Carelessness with stoves, fireplaces (6)
6. Playing with matches
7. Not keeping matches in safe place (4)
8. Improper use of gasoline (4)
9. Not using safety matches (11)

(Things to do in case of fire)

1. If your clothing catches on fire, wrap yourself in a rug or blanket and roll over and over (3)
2. Notify some older person (2)
3. Obey the fire signal (2)
4. Obey rules for fire drill (2)

G. *City Protection*

1. Fire Department (2)

II. Activities

A. *Reading*

Reading leaflets, books, charts containing safety material

Reading and comprehension of safety signs

Composing reading units of safety experiences, suggesting them and helping to provide them

Reading safety material silently

Discovering needs and motives for printed words, phrases and sentences in order to read material

Developing safety material for reading charts

B. *Manual Arts*

Studying about the milk man and making milk wagon, milk cans and bottles

Making coal miner's cap, tools, car

Studying light and heat

Making candles, lamps, street lights

Learning that candles will not burn without air

Constructing a "movie" house to exhibit health or safety material—(mechanical devices for manipulating cylinders for moving the picture will require the teacher's help. Also for manipulation of the curtains, etc.)

Constructing safety town on floor or in sand table, using blocks, chalk, paper, clay, etc.

Illustrating the need for safety at various intersecting streets and other danger points

C. *Social Studies*

Finding out the sources of food and making excursions to the bakery, market, etc.; noticing the demands for cleanliness—a safety measure

Making books of the trip which includes safety illustrations of things seen

Studying the factory buildings
- How many do we have in our neighborhood? What is made in them?
- Answer to questions traced by advertisements, newspapers, etc.
- Samples of products secured. Raw material
- What is made from the raw material
- (Cotton, wool, clothing, wood, metals). Dangers involved in manufacturing
- Shipping of products—Transportation
- Fathers working in nearby factories interviewed
- Making books which record information secured
- Safety implications stressed

Establishing relationships of the present emphasizing safety needs

Learning about the firemen and their hazardous work
- The Fire Department
- Drawing fire apparatus

Learning about electricity
- Making lists of various electrical machines from advertisement and catalogues
- Making charts of electrical appliances—street car, electric iron, vacuum cleaner, toaster

Lighting our houses—heating—power

Making health rules about
- Use of water
- Use of light
- Need of cleanliness

Establishing relationships with other peoples
- Learning from those who speak different languages
- Helping them to understand the need for safety, our laws, etc.

D. *Language Arts*

Writing account of some safety incident

Formulating rules for safety in crossing the street

Discussing methods of heating, cooking and lighting in each child's home

Realizing the need of sentences, capital, etc., by comparing the composition with types of reading material

Making up health and safety rhymes
Dramatizing safety incidents which come within the child's range of experience
Telling safety stories or experiences

E. *Spelling*
Spelling words singly or in sentences which relate to safety work—fruit, vegetable, good, go, look, stop, etc.

F. *Music*
Singing safety songs
Composing safety songs

G. *Art*
Drawing pictures of workers who help us—policemen, firemen, etc.
Drawing factories or products of factories emphasizing safety
Illustrating safety topics by means of stick figures (excellent to depict action)
Drawing activities necessary for cleanliness and health—sweeping, dusting, washing

H. *Industrial Arts*
Making of large posters—either individual or group projects—illustrating: roller skating in the street; crossing the street in the rain; traffic signals; fire alarm box
Telling experiences with crayon or chalk
Block building—drawing and painting—paper cutting—sewing—use of clay and miscellaneous materials to express safety ideas

I. *Numbering*
Incidental number work, counting, keeping scores of weight, those eating proper food, etc.
Counting materials used in various undertakings

J. *Observation and General Information of plant and animal life*

K. *Health*
Knowing the importance of milk
Getting the habit of drinking milk and of looking for and eating "milk dishes"
Keeping milk clean
Reporting on the drinking of milk

III. Outcomes

A. *Reading*

A growing tendency to seek out reading material containing safety incidents

Knowing two or three books containing safety or health stories

Following health principles in having clean hands in order not to soil books

B. *Manual Arts*

To illustrate books made recording safety information secured from the fathers; bakery or market visited; or observations of street incidents

To learn some of the problems connected with manufacturing through simple problems of construction—sewing, clay modelling, wood work, painting, etc.

Learning about sources of materials used—paper, cotton, wool, silk, raffia

Learning to take care of materials

C. *Social Studies*

To do certain tasks about the house: dusting, picking up scraps, emptying waste basket

To suggest a balanced menu of at least three things

To tell why ice is used in connection with food; how it is made; why salt is used

To tell the products of our locality; manufacturing clothing, woodwork, metals, furs, etc.

To tell the names of outstanding trades—list a few hazards connected with each

To know what sanitation means; illness due to carelessness in regard to food, sleep, rest, air, etc.

To understand the dangers of fire and conditions causing it. To know what to do in case of fire

How to respond to fire drill

To know about the Fire Department, fire alarm systems, preventing fires

To give evidence of an ability to appreciate the interests, industries and activities in the community

To tell sources of our light, heat, etc.

Where it is made

Benefits and hazards connected with sources which promote our well being

To make and follow health rules

To appreciate public property and utilities; protection and responsibility for all public buildings, walks, parks, schools, etc.

D. *Language Arts*

A noticeable desire to express ideas, opinion, feelings in regard to safety, using better terms

Knowledge of sentence or short paragraph as unit of conversation

A sense of responsibility for interesting the listeners in safety

E. *Spelling*

To write simple words connected with safety

F. *Music*

To respond to various types of music

To sing simple safety songs

G. *Art*

To use graphic vocabulary to tell of safety incidents

To illustrate a safety story

To enter into discussion when drawings or models are put up for criticism

To care for materials, picking up bits from the floor, putting articles away, etc.

H. *Industrial Art*

To judge appropriateness of materials needed for specific use

Better knowledge of and appreciation for work of others

Increased knowledge of materials and greater realization of our need for them

I. *Numbering*

To record safety incidents

To make graph from weight chart, or record of proper foods, etc.

To know the value of time and to plan work accordingly

J. *Nature Study*

To have some knowledge of nature based upon the authority of science, simply expressed in untechnical terms

K. *Health*

Habits of being clean and knowledge of how to care for teeth, hands, hair

Realizing dangers and habit of being cautious—not taking undue risks of any kind—petting stray dogs, touching wires and unfamiliar tools, tasting contents of bottles, etc.

Realizing bad effects of one's eating, and eating improper food

Habit of drinking water

A regard of air, sun, light and personal needs

THIRD GRADE

Grade Objective

To develop responsibility for the protection of others

To form habits of carefulness

To acquaint one's self with community efforts to promote safety

I. Itemized Safety Learnings

A. *Home Safety*

(Review topics listed in preceeding grades)

B. *Street Safety*

1. Watch the traffic officer (11)
2. Cross at the cross walk (9)
3. Look both ways when crossing the street (7)
4. Pick up fruit peels (7)
5. Learn meaning of safety signals (4)
   a. Policeman's whistle
      (1) One whistle—two whistles
      (2) Stop-go signs
      (3) Red or green light
   b. Danger signals
      (1) Red flag at rear of wagon or truck or sticking up in pavement
      (2) Red lantern on pile of coal or other obstruction in the street
   c. New safety signals (1)
      (1) White lines at crossings, center of the street, where car stops
      (2) Signs—"Entrance—Exit—Stop, Look and listen—Slow Down, School Ahead."
6. Street cars (2)
   a. Know how to get on and off street cars (11)
7. Railroads (2)
   a. Always look both ways when crossing railroad tracks (10)
   b. Avoid playing near railroad tracks (10)
   c. Use the proper crossing (7)
   d. Cross only when the gates are up (4)
8. Other safety topics—topics to remember
   a. Do not run into street after ball or hat (14)

b. Keep off handle bars (10)
c. Avoid running into the street from behind parked cars (9)
d. Play in safe places (8)
e. Do not "hop" automobiles, trucks or wagons (7)
f. Do not roller skate in the street (7)
g. Do not use scooters in the street (4)

C. *Fire Prevention*

(Causes of fire)

1. Bonfires left unguarded (11)
2. Stoves and open fire places unprotected (9)
3. Escaping gas and overturned lamps (6)
4. Playing with matches (6)
5. Birthday candles, or candles used at Christmas, Hallowe'en, not carefully watched (5)
6. Hot ashes not placed in proper receptacle (5)
7. Clothes left hanging too near the fire (4)
8. Camp fires not extinguished (1)

D. *Health*

1. Eat proper food (5)
2. Follow the health rules (3)
3. Use handkerchief to cover cough or sneeze (3)
4. Keep clean (2)
5. Have sufficient amount of sleep (2)
6. Have plenty of fresh air and sunshine (2)

II. Activities

A. *Reading*

Working up an informal program of reading, pantomimes, plays, rhymes, stories on safety for the entertainment and information of others

Reading an original story and finding a name for it

Discussing substitutes for Christmas candles, writing a report of recommended decorations, and presenting these at an assembly period

Choosing and reading a book on health or safety

Reading directions for playing a safety game, organizing groups, and demonstrating to others how to play the game

Making a puppet show on safety topics and taking the speaking parts of the puppets

Talking together in large or small groups about health and safety practices, making recommendations or suggestions

Bringing in articles and pictures to interest others in preventing fires

Reading and listening to accounts of fire fighting in the early days

Reading and acting out some safety practices

Making up riddles with safety suggestions or implications[1]

Riddles with factual content

(1) I am something red and round
I am larger than a cherry
I have many brown seeds
I grow on a tree
Children like to eat me
Mother makes pies and sauce of me
Write my name (Apple)

(2) I am a vegetable
I have a green feathery head
My body is long and orange colored
Rabbits like to eat me
You cook and eat me
What vegetable am I? (Carrot)

B. *Social Studies*

(Includes Geography, History and Civics)

Reading to find out how the children of the early settlers lived in New York City

Making candles and discussing the need for carefulness

Using the sand table to represent New York City in the early days

Contrasting the pioneer homes with ours to-day, noting the advantages and dangers accompanying each

Finding on the map places where children in the room have lived before coming to America

[1] Examples taken from Course of Study, Third and Fourth Grades, Los Angeles City School District. School Publication No. 89, September 1, 1924, page 105.

Constructing scenes from different lands on the sand table after children have told of the need for safety teachings in different places (narrow streets, use of donkeys, goats running about the street, unsanitary conditions, systems of delivery of milk, etc.)

Direct Safety Teaching

Participating in discussions, giving talks to the children in the kindergarten and first grade telling them
Where to play safely
How to get to and from school safely
The causes of fires, etc.

Listing things every Third Grade Child should know about safety

Finding in readers, books and magazines stories about safety

Planning how to make games safe

Knowing what to do in case of fire
Knowing how to call the Fire Department—using the telephone, fire alarm box
Knowing how to put out a fire and the materials to use—rug, broom, water, sand, salt, ashes

Developing community spirit by
Observing safety teachings when crossing the street
Helping smaller children across
Obeying all rules for public safety
Learning to give directions to people
Avoiding "stolen rides" on vehicles
Making a book which gives the development of the present day Fire Department, including such topics, as

Fire Fighting in Olden Times
The Bucket Brigade
Use of hand apparatus—hose cart
Volunteer firemen
Fire horses—how trained

Present day Fire Department
Military in character
Various positions in the fire department
Different kinds of apparatus and uses of each—fire engine, fire boats, aerial ladder truck, ladders, life

net, ropes, roof ladders, pulmotor, gas masks, ammonia mask, stretcher blankets

Our visit to the Fire Department

See the apparatus, receiving the alarm, watching preparations, etc.

Discussing the services of the fireman in inspecting buildings, traffic officer, night watchman, health officer, men cleaning streets

Planning how to help the Public Utilities Department (Water, Gas and Electric Company) by turning off all faucets, reporting leaks, keeping from breaking light globes

Making lists of those who render service to every home such as the milkman, butcher, grocer, baker, the nurse, doctor, druggist, dentist, tailor, dressmaker, shoemaker, carpenter, painter, plumber, etc.

C. *English*

(Opportunities for English expression were mentioned previously)

Making a book containing necessary health and safety information

Writing an account of places of interest near the school where safety devices are in use

D. *Art*

Learning to use the principles of composition and design to illustrate safety topics and relationships

Utilizing civic interests by drawing city streets, street sprinkler, traffic officer, fireman

Utilizing interests of the home by drawing simple interiors contrasting adherence to safety principles or the lack of them

Drawing situations remembered in the home across the water

E. *Industrial Arts*

Making of a little theater where safety topics will be presented

F. *Health*

Developing habits of neatness and cleanliness

Learning through various story plays and stories the food most beneficial for bodily maintenance

Learning principles of hygiene through health talks
Making books with illustrations of the right or wrong kind of clothing, shoes, etc.
Learning to swim for health and for safety

III. Outcomes

A. *Reading*

To hunt through title, table of contents, and the index in books, magazines and papers to find the safety material which will contribute to the interest or general information of the group
To make and use a simple graph illustrating one's progress in promoting health and safety

B. *Social Studies*

Development of a sense of responsibility toward the social group in learning safety regulations
Formation of right habits in obeying school regulations and civics laws
Ability to use city maps intelligently, locating the danger points

C. *English*

To know if the sentences fit the topic chosen
To write a correct simple sentence
To make clear and interesting captions for safety pictures

D. *Art*

Desire to add beauty to the home and also to add what is useful and safe
Development of civic pride in wanting adequate street lamps, clear traffic signs, beautiful buildings, parks and playgrounds kept in good order

E. *Industrial Arts*

Ability to use ordinary tools efficiently
Ability to work in cooperation with others

F. *Health*

Drinking milk and no tea or coffee
Eating fruit every day
Washing hands before eating or handling food
Brushing teeth every day
Seeing the dentist at least twice a year
Using and taking proper care of handkerchief

FOURTH GRADE

Grade Objective

To understand traffic situations

To know how to prevent accidents which generally occur during the play activities of children

I. Itemized Safety Learnings

A. *Home Safety*

B. *Street Safety*

1. Watch the traffic officer (9)
2. Do not play in the street (8)
3. Cross at the cross walk (7)
4. Use the safety zone (7)
5. Look both ways when crossing the street (6)
6. Avoid hitching on trucks and automobiles (6)
7. Do not run out from behind parked cars (5)
8. In crossing railroad tracks look both ways before crossing (5)
9. Cross only when gates are up (4)
10. If crossing is not guarded by gates or watchman, look for automatic safety signal which will tell you if a train is on the track (4)

C. *Play safety*

1. Learn to swim for fun—for safety (6)
2. Do not throw hard snow balls (5)
3. Do not stand up in the boat or try to exchange seats (4)
4. Understand the use of life saving devices and know how to adjust a life-saving belt (4)
5. Know how to rescue some one who has fallen through the ice (4)
6. Coast only in parks or streets closed to traffic (4)
7. Use the playground as a place to play (4)
8. Avoid pushing (4)
9. Do not run with pointed articles (4)
10. Be careful when wading to avoid bruises from sharp stones, glass (4)
11. Use the playground or gymnasium apparatus in the right way (3)
12. In coasting, be sure to steer straight (3)

D. *Public Safety*

Traffic controls

1. Motor policemen (8)
2. Traffic laws and their enforcement (6)
3. Mounted policemen (2)
4. Traffic policemen
5. Danger and safety zones
6. Street markings
7. Speed Laws
8. Uniform traffic codes
9. Drivers' license
10. Automobile license
11. Traffic courts

Fire Department (4)

1. Firemen
   a. Duties. b. Responsibilities
2. Automobile drivers and pedestrians
   a. Duties. b. Responsibilities
      (1) Give right of way to the fire department when fire alarm is sounded
      (2) Do not follow the fire engine to the fire
      (3) Obey signs near fire hydrant which say "No Parking"

3. School Children
   a. Duties and responsibilities
      (1) Report fires to the Fire Department either by sending in an alarm by telephone or from the fire alarm box

Fighting fires

1. Fire may be put out by keeping oxygen away from it.
2. Use salt, sand, flour on burning kerosene and gasoline. Fire will spread if water is poured on
3. Wrap body in rug or blanket and roll over and over if clothing catches fire
4. Forest fires
   a. The United States Department of Forestry is trying to stop forest fires
   b. United States Department of Agriculture patrols the forests every summer to put out forest fires

c. The Forest Ranger—his duties and responsibilities
d. Reporting of fires to the Forest Ranger Station
e. Causes of forest fires
Careless campers leave camp fire unprotected, build fire too near trees or logs, flying sparks, etc.
f. Dangers and losses.

E. *Health*

1. Foods
   a. When to eat and drink
   b. When not to eat and drink
   c. What to eat and drink
   d. What not to eat and drink
   e. Preparation of wholesome meals
2. Clothing
   a. Purposes
   b. Nature
   c. Disadvantages
   d. Wearing of hygienic clothes
3. Housing
   a. Ventilation
   b. Light and heat
   c. Cleanliness
   d. Water supply
   e. Furniture
4. Cleanliness
   a. Care of eyes, ears, nose
   b. Bathe frequently
5. Work, play, rest, sleep
   a. Attitude toward
   b. Kinds of
   c. Purpose of
   d. Dangers of
   e. Posture in
   f. Quality of
   g. Time for

II. Activities

A. *Reading*

Teaching others the values of books and the different types of materials found in books

Learning to consult alphabetical references without help from the teacher

Learning to look for safety material under Health where it is often classified

Planning ways of becoming more independent in searching out interesting safety material

Examples of Speed and Comprehension Lessons on Material adapted from a Fire Department Bulletin[1]

How to Prevent Fires

Keep matches in a tin covered box. Mice sometimes set fire to buildings by carrying away matches left about by careless people.

Put burnt matches in a tin box. Never throw them in the waste basket.

A wire screen should always be placed in front of an open fire place to keep sparks from lighting on the rug.

Never leave rubbish piled against the wall of any building. Fires have been known to start by themselves. Such fires are said to start by *spontaneous combustion.*

Oily rags should be burned as soon as one is through with them. Sometimes they may be kept in a tightly covered tin can. But fires often start spontaneously in oiled rags.

Never clean with gasoline or naphtha indoors. Work outside where the air carries away dangerous fumes.

Type exercises for use of above lesson

Directions for children

Exercise I. Paragraph headings

Read each paragraph carefully.

After all are read, find a word or group of words that will tell the important thought of each paragraph, as

Paragraph 1. Mice and matches

Paragraph 2. Care of burnt matches

[1] Examples taken from Course of Study, Third and Fourth Grades. Los Angeles City School District. School Publication No. 89. Sept., 1924, page 107-108.

Write your answers and be ready to compare with the class.

Exercise II. Missing word supplied

Read each paragraph carefully, fill in the missing word in these statements.

Matches carried away by.....often cause fires. .....matches should be put in a tin box. Sparks cannot do harm if a..... ..... is used before the fire place, and so forth.

Exercise III. "True-False Test"

Read the paragraph.

In the following sentences you will find one word which makes the sentence tell what is *not* true. Copy the number of the sentence, then write the word which should be put in place of the wrong word.

Matches are left around by careless people.
Put burnt matches in the waste basket.
Keep a wire screen in front of the fireplace.
Fires in rubbish never start by spontaneous combustion.
Oily rags should be saved when you are through with them.
Clean with gasoline indoors.

B. *Social studies*

Making booklet and posters to show
What comes in at piers 51 and 53 of New York City?
What goes out from these piers?

Making a chart of the streets where traffic congestion is greatest and showing street cars, elevated and subway lines

Making a collection of clippings from newspapers and magazines of interesting safety material

Studying steamship maps and folders

Making a class book of the industries in the district

Taking an excursion to one of the industries to secure information concerning safety devices used, sanitary working conditions, etc.

Making of booklets, charts, sand table maps to show
The history of street lighting
The history and growth of certain industries

How a harbor can become a good trading center
Where has this happened?
How a harbor can become a good shipping center
Where has this happened?

Making safety speeches, writing stories, slogans and plays, helping others to *think safety*

Acting out safety incidents

Planning what Fourth Grade children can do to make the streets and the school safe

Discussing how to make plays and games safe
Danger of kites on telephone and electric wires
Playing ball too near the street
Playing tag—place bases away from the street

Keeping a list of instances where children have been observed looking out for others

Finding in the readers and other books stories appropriate for safety teaching

Discussion of increased number of accidents. Deciding to bring this matter to the attention of the school and community

Demonstrating prone pressure method of resuscitation by Boy Scouts

Citizenship interests

Discussing ways of helping the street cleaner

Covering garbage cans

Picking up orange and banana peels

Passing people in public places—keep to the right

Wrong in taking chances—harm resulting

C. *English*

Making lists of phrases and sentences useful in safety situations

Finding good safety stories or incidents and making them into plays or movies

Making slogans to fit daily safety needs and interests

Developing skill in ability to express ideas of citizenship, conservation, thrift and other safety measures

D. *Art*

Making posters for forest conservation

Studying pictures of homes, costumes, and means of transportation of people in other lands
Protection or dangers suggested by each
Enjoying lantern slides and motion pictures of general safety information
Drawing of objects familiar to the group—sailors, boats, ocean liners, trucks, noting various safety measures

E. *Industrial Art*
(Assists in vitalizing the work of the other subjects by offering the illustrative materials)

F. *Health*
Observing all rules of health and vaccination cards
Keeping clean, eating proper food, having fresh air
Keeping water supply pure
Reporting contagious diseases
Taking care of teeth, eyes, etc.
Learning to swim
Guarding against bodily harm

III. Outcomes

A. *Reading*
To manage properly the procedures in the public or branch library
To tell some good and definite reason for recommending a book to another child
To find material which will contribute necessary information on safety and health topics
To know where to find materials and how subjects are classified

B. *Social Studies*
To understand some of the problems of food, shelter and clothing
To willingly accept responsibility in looking after others
To enter into the harmonious relationships of good citizens

C. *English*
To choose interesting words and various ways of expressing a thought
To stand before the class with correct posture and make a two minute talk on some safety subject, using clear-cut sentences and speaking so everyone in the room can hear

D. *Art*

To draw and to follow a simple working plan

Civie pride in fine buildings, wide and elean streets, adequate parks and play spaee, beautiful fountains, ete.

E. *Health*

Consideration of others in protection against infection

Ability to differentiate between good and bad posture

Development of habits that will carry through life of participating in activities that will make it possible for an individual to keep his vitality up to the highest possible standard

FIFTH GRADE

Grade Objective

To become familiar with safe practices in the heating and lighting of buildings

To become familiar with the use of electricity

I. Itemized Safety Learnings

A. *Safety Practices*

1. *Gas and Gasoline dangers* (7)
   a. Keep gasoline in a cool place in a metal container, painted red and labeled "gasoline" (7)
   b. Never use gasoline to start a fire
   c. Do not use gasoline as a cleaning fluid
   d. Do not hunt for gas leaks with lighted match or candle (3)
   e. Never polish the stove when it is warm. Some liquid stove polishes contain gasoline (2)
   f. Never fill the gasoline tank of the stove quite full. Gasoline expands when warm (1)
   g. Never fill the gasoline tank when there is a fire in the room or someone is smoking (1)
   h. Never start the engine of an automobile in a closed garage. Automobiles throw off carbon monoxide, a tasteless, odorless, and colorless gas which is exceedingly dangerous if inhaled in a closed compartment of any kind (1)
   i. Report gas leaks to the Gas Company at once (4)
   j. An odor of gas in the room means that gas is escaping. Open doors and windows (1)
   k. Do not go away and leave the gas burning
   l. Do not use rubber tubing to connect gas plates and stoves
   m. Gas water heaters quickly exhaust all the oxygen in the room. Be sure to have windows open unless the heater is connected with a pipe leading to the chimney (1)

2. *Electrical dangers* (5)
   a. Do not use a frayed or worn cord on an electric iron (3)

b. Do not cover an electric light bulb with a cloth or paper to serve as a shade (1)
c. Do not tack lamp cords to wooden surfaces (1)
d. Do not leave an electric iron connected after using it (1)
e. Do not touch an electric fixture with wet hands or a damp cloth (1)
f. Do not touch any two electrical appliances at the same time, such as turning on an electric light while handling the telephone, touching an electrical appliance when standing on hot air register or in contact with anything connected with the ground by metal pipes or wires (1)
g. Avoid coming in contact with fallen wires (4)

3. *Causes of fire*
   a. Accumulation of rubbish in attics, basements, store rooms (4)
   b. Hanging clothes too near the flame (4)
   c. Thawing out of pipes (4)
   d. Forgetting to bank the fire in the fire place, when going to bed and not placing the metal fire screen in the proper position (4)
   e. Oily rags not kept in a metal container (4)
   f. Celluloid articles, such as combs, toys, and so forth, too near the fire (3)
   g. Christmas tree decorations catching on fire (3)
   h. Lighted candles taken into closets (2)
   i. Burning rubbish in an open fire place (2)

4. Protective measures. Knowledge of what to do
   a. *Burning buildings*
      1. In a burning building, close doors and windows Fire cannot burn without air (2)
      2. If smoke is dense, cover your nose and mouth with wet cloth or handkerchief to keep smoke out of lungs (1)
      3. If smoke is very dense crawl along the floor to the door or window (1)
      4. Be able to descend with use of a life line (1)
      5. How to put out fires

6. How to call the fire department
7. Knowledge of First Aid

b. *Fallen wires*

1. Guard the wire and warn others not to come near (1)
2. Send someone to telephone to the Police Department and the Electric Company
3. Never touch a person who has come in contact with a live wire. Instead try to remove the wire by using a stick or board

B. *Play or recreation*

1. Do not play with firearms (8)
2. Learn to swim for fun—for safety (6)
3. Do not beg or steal rides (5)
4. Coast only in parks or streets closed to traffic (4)
5. Do not skate on thin ice (4)
6. Do not play in the street (4)
7. Do not play near railroad tracks (4)
8. Know various life saving devices (3)

C. *Health*

1. Air
   a. Value of oxygen
   b. Test for pure air
2. Ventilation
   a. Amount pure air needed per hour per person
   b. Effect of; breathing impure air, overcrowding, overheating
   c. Best temperature for studying—for living room—for sleeping room. Value of outdoor sleeping
   d. How best to ventilate rooms
3. Heating
   a. Fire place—stove, furnace, dangers from gas or oil heaters
4. Importance of sunlight
5. Need for loose clothing and proper shoes
6. Need for proper exercise
7. Keeping down dust in cities
   a. Homes—sweeping and dusting
   b. Streets—oiled, washed, sprinkled

8. Quarantine laws
   a. Why necessary
   b. Need for strict observation

D. *Protective Measures used by Nature* (2)
1. Protective coloring of insects, birds, and animals changing with the seasons
2. Protective animal structures—the heavier coat for winter, etc.
3. Value of plant and animal life to man

II. Activities

A. *Reading*

Searching for material in order to know how to form a safety council

Reading material and selecting principles suitable for the particular school situation

Organizing principles for the formation of a Safety Council and presenting them to the group

Formulating principles for good health, keeping height and weight charts, reading books on hygiene, home economics and other sources of information

Studying the safety problem, writing to the National Safety Council for literature

Preventing fires, reading literature, seeking additional information from members of the Fire Department

Editing a newspaper containing a safety column

Making and taking true-false or completion sentence types of tests on familiar safety material

Looking up the story of making matches and noting the difference between the friction and the "safety match"

B. *Social Studies*

Reading newspapers, posting clippings of any safety information and interesting others in the Bulletin Board

Collecting pictures of labor-saving devices and reporting on one industry which used certain safety measures

Studying methods of transportation: Conveyances—steamship, railroad, street car, automobile, wagon, cart, aeroplane. Listing of hazards connected with each

Learning how to use our parks—telling of the advantages most enjoyed which the city provides

Studying savings. The ways children should save health, time, money, materials and talents may be depicted in stories, pantomime, or illustrated talks

Planning to eliminate wasteful pranks at Hallowe'en by working out an estimate of the loss of time washing windows marked with soap in one block within the school district

Providing for civic interests

Clean up week

Health week

Fire prevention week. Causes of fires, how to reach Fire Departments, location of nearest fire alarm box, forest fire prevention

Safety week. Economic cost of accidents to a community, elevator accidents, "hooking" rides, begging rides, jay walking, playground accidents

C. *English*

Writing of letters, giving talks, writing plays, organizing current events club, giving directions, telling stories, and having debates and discussions on safety interests which develop in any of the school subjects

Giving a First Aid program—writing and then giving this information on some of the common accidents pertaining to the lighting and heating of homes

Making rules for the playground, etc.

D. *Art*

Drawing a simple plan for wiring a house

Drawing designs of a carbon lamp and a tungsten lamp

Drawings to illustrate the development of our present lighting system—a candle torch, candles (dipped and molded), modern kerosene lamp, gas lamp, carbon lamp, tungsten lamp, etc.

Drawing to scale a plan of the school building showing stairways and other means of exits, etc.

E. *Health*

Learning how to ventilate a room and knowing the principles of ventilation

Developing habits of neatness and cleanliness

Learning through reading and seeing pictures, additional care of the teeth

Making scrap book of right and wrong kind of clothing, shoes, etc.

III. Outcomes

A. *Reading*

To find reading material on a given topic in textbooks or other source materials by the use of the index, and table of contents, etc.

To glance through a paragraph and discover from the topic sentence and from skimming if the needed safety material is included

To use the class and school library

B. *Social Studies*

Knowledge of the development of transportation facilities

Appreciation of the value of the opportunities and advantages provided by the City

The development of an interest in reading materials which "lead on" into books giving a more comprehensive treatment of the safety problem

C. *English*

To interest the audience in safety

To give safety information using short, clear-cut sentences

To speak clearly at all times when talking to the class so that all may hear

Write out a clear report of some activity such as the safety council, health week, etc.

D. *Art*

To use graphic representation to illustrate historical development of safety devices

Habit of making quick sketches to illustrate or offer as proof of arguments in discussing safety problems

To see the opportunities for art work in aiding safety work of all kinds, etc.

E. *Health*

Knowledge of the reasons for health rules

Considering others in protection against infection

Increase of interest in welfare of others

SIXTH GRADE

Grade Objectives

To gain some knowledge of the protective measures used in industry and the cooperation needed to make the safety work function properly

To understand better the various means of civic protection

I. Itemized Safety Learnings

A. *Industrial Protection*

1. Protection of the working man and working woman (6)
   a. Requirements of the employer
      (1) Certain type of uniform to be worn (3)
      (2) Caps, gloves, shoes, goggles (2)
      (3) Lamps carried (3)
   b. Protection against dangerous machinery (2)
      (1) Proper guards for elevators and machinery having fly wheels or moving belts
      (2) Warning signs
   c. Work of the inspector (2)
      (1) To enforce rules of the company
      (2) To see that workmen do not endanger themselves unnecessarily
      (3) To see that machines are not too close together
      (4) To see that the building is properly lighted, ventilated, heated
   d. Hospital service (2)
      (1) Nurse and doctor to care for all injuries
      (2) All minor injuries must be reported
      (3) Home visiting done by nurse
2. Dangerous types of employment
   a. Mines
   b. Factories
   c. Mills
   d. Laboratories
   e. Engineering
   f. Building
3. Workmen's Compensation Law (1)
   a. Groups included
   b. Insurance
   c. Rates

4. Laws regulating employment of women and children (2)
   a. Number of hours women are allowed to work
   b. Regulation of child labor
      (1) Limits the kind of employment for children under 14 years of age
      (2) Children of 14 and 15 may work at certain kinds of employment if provided with employment certificate
      (3) Hours limited

B. *Civic Protection*

1. Public safe guards
   a. Lighting of streets (1)
   b. Paved streets
   c. Side walk regulations (1)
   d. Danger signals
   e. Lights on coal piles in street (1)
2. Traffic Regulations—Enforcement (2)
   a. One way streets (2)
   b. Parking rules (1)
   c. Pedestrians cross at the white lines (2)
   d. Speed of automobiles (1)
   e. Lights on automobiles (1)
   f. Traffic codes (1)
   g. Driver's licenses (1)
   h. Automobile licenses (1)
   i. Traffic court (1)
3. Inspection of buildings
   a. Use of elevators (5)
   b. Boilers (1)
   c. Electric wiring (1)
   d. Proper construction
4. Food Inspection
   a. Pure Food Law
      (1) To protect the purchaser
      (2) Adulteration and substitution unlawful

C. *Protection from fire*

1. Continue the study of present day fire departments
2. Fire alarm system (2)
3. Various positions in the fire department

4. Dangers to firemen
5. Heroism of firemen
6. Means of preventing fires in rural areas
7. Problem of fire prevention in cities
8. Means of preventing fires
   a. Careful use of matches (3)
   b. Learn to use the fire extinguisher
      Materials to be used to fill the metal container are a mixture of sulphuric acid, sodium carbonate and water
   c. Learn proper way to make a camp fire (2)
   d. Learn how to put out fire (5)
   e. Never leave a camp fire unprotected
   f. Learn how to turn in fire alarm (2)

D. *Health*

1. Dependence of the individual upon society for the necessities of health
   a. Breathing pure air
   b. Drinking pure water
   c. Eating wholesome food
   d. Proper kind of exercise
   e. Keeping one's body clean
   f. Avoidance of contagious disease
   g. Have regular and sufficient hours of rest
   h. Public health nurses and doctors
   i. School nurses and doctors
2. Industrial hygiene
   a. Principal risks in different kinds of work[1]
      (1) Dust, either organic or inorganic, fumes, gases, vapors, acids, poisonous and non-poisonous
      (2) Harmful bacteria causing infection
      (3) Improper ventilation
      (4) Improper lighting conditions
      (5) Extremes in temperature and humidity
      (6) Excessive strain leading to fatigue
      (7) Compressed or rarified atmosphere
      (8) Unguarded, poorly taken care of, or carelessly operated machinery
      (9) Fire hazards

[1] Classified by New York Health Department

II. Activities

(Activities involving the use of Reading, Art, Geography, History, Civics, Language, Nature Study, General Science, Home Economics, Writing, Spelling and Arithmetic may be utilized in carrying on the relationships between the child's interests and the subject-matter. If the purpose of the school is to treat subjects as a means of giving the child desirable and worthwhile experiences and not as organized academic subjects, then there can be no boundary line between them. The child and teacher together will draw upon the subjects in the proportion needed to make adequate interpretation of, and enrichment for, the safety items. A further listing of the activities is not thought to be necessary as the activities suggested in the preceding grades are illustrative of the work to be carried on in any grade.)

III. Outcomes

(Activities should result in definite outcomes of habits, knowledge, and attitudes. These should become the permanent possession of the child who has engaged in the activity.)

SEVENTH GRADE

Grade Objective

To know the various civic organizations which contribute to the general welfare of the city

To seek cooperation and assistance in making the city safe

I. Itemized Safety Learning

A. *Accident prevention*

1. In the home
   (Review of previous outlines—emphasis directed toward electrical hazards Grade V)
2. Traffic situations (1)
   a. Narrow and congested streets
   b. Converging streets
   c. Street jogs
   d. Railroad crossing (2)
3. Police traffic regulations
   a. Driver must signal (2)
   b. Automobile regulations
      (1) Avoid glaring headlights (1)
      (2) Drivers license (1)
      (3) Automobile license
      (4) Speed limited (1)
   c. One way streets (1)
   d. Heavy trucking on certain streets
   e. Parking rules (1)
   f. Rules for pedestrians (1)
   g. Traffic signs
   h. Right of way for fire engine
   i. Safety zone (1)
4. Police department
   a. Patrolman (2)
   b. Traffic squad
      (1) Policing and mechanical directing of traffic
   c. Motorcycle squad
      (1) Traffic regulations against speeding
   d. Automobile squad
      (1) Guards ferries and other traffic channels leading into the city

e. Bomb trial squad
   (1) Special study of labor strikes, labor problems and tries to avoid unnecessary strike trouble
f. Bureau of missing persons
   (1) Concerned with public service and welfare rather than police duty
g. Bureau of Public Safety (2)
   (1) Formed to try to reduce the number of street accidents
   (2) Work is mainly educational—members give lectures to school children, automobile drivers, etc.
   (3) Inspects automobile brakes, etc.

5. Police Courts
   a. Methods of dealing with traffic violators (1)
   b. Laws regarding reckless drivers (1)

B. *Fire Prevention*

1. The city's fire department and its function (3)
   Organization (2)
   a. Military in character
   b. Fire alarm system
   c. Various positions in the fire department
   d. State system of fire protection
   e. Means of preventing fires in rural communities
   f. Problems of fire prevention in the city
2. Means of preventing fires
   a. Discuss chief causes of fire and ways of preventing
      (1) Electricity
      (2) Matches
      (3) Rubbish
      (4) Gasoline
   b. Time of year fire dangers are greatest—house-cleaning, cleaning up yards and garden plots in spring and fall, burning rubbish, Hallowe'en, Christmas and Fourth of July Celebrations (3)
3. National problem of fire prevention
   a. Annual fire losses in United States
   b. Fire insurance, Purpose, Rates
   c. Forest fires (3)

B. *Fire Prevention—Continued.*

4. Study of local fire station
    a. Compare present day methods of fire fighting with early American fire or bucket brigades
    b. The modern fire engine
        (1) Chemical engines
        (2) Waters towers
        (3) Fire boats
    c. Work of Fire Prevention Bureau
        (1) Division of Fire Appliances
            (a) Jurisdiction over standpipes, sprinkler systems, chemical and other fire extinguishers, and simplest form of ordinary fire bucket
            (b) Charge of correcting existing fire hazards—structural or non-structural
                1. Protection of shafts and openings through which fire might spread from one story to another—elevators, stairways, and air shafts
                2. Necessary exits—fire proof material in erecting fire escapes
                3. Installation of fire alarm systems in factories, hotels, and lodging houses
                4. Control of electrical hazards
            (c) System of education in fire prevention in homes, schools, churches, clubs, etc.
            (d) Theaters, motion picture houses, public dance halls, athletic clubs and ball parks inspected to see if fire appliances are used
            (e) Inspects theaters before every performance
                (1) Asbestos curtain
                (2) Exits marked
                (3) Doors open out
                (4) Fire extinguisher and axes in conspicuous places
            (f) Supervises use of inflammable and explosive materials

B. *Fire Prevention—Continued.*

(g) Inspection of dry cleaning establishments, refrigerating plants, garages, chemical supply houses, and other business using substances apt to cause explosion or sudden fires

5. Help the Fire Prevention Bureau by following these rules

a. Matches should be kept in a metal container away from heat and out of reach of small children (5)

b. Stovepipes and chimneys should be cleaned frequently and kept in proper repair, all unused stovepipe holes should be covered with metal cap (1)

c. Floors under stoves should be protected with metal or other non-inflammable material

d. Walls, ceilings, and partitions should be protected from burning as a result of their proximity to stoves, furnaces and pipes

e. Inflammable rubbish, paper, broken furniture, and so forth, should be removed from the cellar, attic, and yard to the curb and be placed in bundles or containers so that the Street Cleaning Department may cart them away (2)

f. Metal containers having covers should be provided for oily rags used to polish furniture, also mops, to avoid fire caused by spontaneous combustion (chemical action) (1)

B. *Fire Prevention—Continued.*

g. The careless smoker should be watched (4)

h. Locate the nearest fire alarm box to your home and learn how to send in an alarm (1)

i. Hot ashes should be placed in metal containers, kept away from wooden partitions (1)

j. Electric irons and heating appliances should be disconnected after use or if work is interrupted to answer telephone or door bell (1)

k. Fire escapes should not be blocked, they should be kept clear and ready for use at all times (3)

l. Inspect, with the other members of your family, your own home so as to know the location of all fire exits and how to use them

m. Do not go into dark closets, bedrooms, or cellars with lighted candles or matches. This is a dangerous practice (2)

n. Kerosene should not be used for lighting fires (6)

o. Do not use lighted candles on Christmas trees (1)

p. Oils, paints or grease should not be stored in the house

q. Curtains should be kept away from open gas flames; remove folding gas bracket from the home and replace with those of a rigid type (1)

B. *Fire Prevention—Continued*

r. The use of gasoline, naptha, or benzine is very dangerous. These ehemieals should not be kept in the house (6)

s. Do not plaee small gas stoves on tables unless there is metal or asbestos underneath the burners. Do not use rubber tubing (3)

t. Do not look for gas leaks with lighted match or eandle (2)

6. Study of famous fires—lessons that may be drawn from them
   a. Chieago fire, San Franeiseo and so forth

C. *Health*

1. The eity's water supply
   a. In eolonial days
      (1) Wells, pump, well sweeps
   b. Present day methods
      (1) Catskill system—reservoirs
      (2) Purifieation
         (a) Aeration
         (b) Preeipitation
         (e) Sterilization
         (d) Filtration
      (3) Reservoir and water shed proteetion
         (a) Speeial Poliee guard to prevent polution by eareless people
      (4) Maintenanee
         (a) Department of Water Supply, Gas and Electrieity
            1. Present eost per million gallons
         (b) How to save water
            1. Cost of water wasted
            2. Be sure to turn off faueet when amount neeessary has been seeured
            3. Report leaky fire hydrant to nearest offiee of Water Supply Bureau

C. *Health—Continued.*

Inspect faucets in your own home and if they are leaky have them repaired at once

5. Use water meter
   a. How to read water meter

2. Disposal of city wastes
   a. Street cleaning
      (1) Sprinkling, sweeping, washing
   b. Garbage disposal
      (1) Collection
      (2) Method of transportation
      (3) Final disposal
         1. "Reduction" process
         2. Incinerator
         3. Dumping 40 miles out to sea
   c. Removal of snow
      (1) Motor driven plows
      (2) Snow piled and then either dumped into sewer or carted to water fronts
   d. Ashes and rubbish
      (1) Used for making land fills
   e. Sewage
      (1) Empties into the bay
      (2) Sewage treatment plants
         (a) To keep people of New York healthy

3. Keep your city clean
   a. Do not throw any rubbish, litter, paper, fruit skins, or waste of any kind upon the sidewalks or into the streets
   b. Do not sweep anything except dust from the sidewalks into the streets
   c. Do not throw handbills or newspapers upon the streets
   d. Do not put your ashes or garbage in anything except a metal can
   e. Do not put out garbage cans without a tight fitting cover

4. Milk supply
   a. Bacterial examination of milk by Health Department
   b. Grading of milk
   c. Pasteurizing milk

D. *Making home life safe*

1. Care of foods within the home
   Bacteria—molds—yeasts which spoil foods
   Care of the refrigerator
   Preserving foods by canning
2. Animals which injure our food
   Ants—beetles—cock-roaches, trichinae—tapeworm—rats
3. Materials for clothing
   Care of clothing
   Protection against moth, mildew
   Removal of stains
4. Hygiene of the home
   Ventilation—dead dust—living dust
   Sweeping, dusting and washing, ironing
   Control and prevention of malaria and yellow fever caused by flies, mosquitoes

E. *Recreation*

1. Park Department
   a. Chelsea or Central Park
      (1) Small lakes, wading, boating, sailing, boats, etc.
      (2) Coasting, playing in the snow
      (3) Skating—skiing
   b. No free bathing beaches in Manhattan
      (1) Floating baths, a substitute
         (a) Pier 33—East River
         (b) Foot of East 10th Street
   c. Coney Island and other bathing beaches
2. Certain streets closed to traffic so that the children in crowded districts will have some place to play safely

II. Activities

III. Outcomes

EIGHTH GRADE

Grade Objective

To extend safety knowledge so as to include the organized agencies of the Government which promote safety and well-being in our community

I. Itemized Safety Learnings

A. *Promoting Safety*

1. Department of Public Works
   a. Building Codes (2)
      (1) Safety in single, double and apartment houses
      (2) Safety in theater and moving picture houses
      (3) Safety in public buildings such as schools
   b. Inspection of
      (1) Buildings (2)
      (2) Boilers and heating apparatus
      (3) Electrical wiring in homes and public buildings (1)
      (4) Gas stoves and heaters (1)
      (5) Theaters and moving picture houses
      (6) Licenses of operators of electrical apparatus used in theaters

2. National Safety Measures (1)
   a. United States Army, Navy, Marine Corps called our "Federal Police Force" (1)
      (1) Protect us from foreign enemy, or domestic disorder
   b. The National Guard
   c. The United States Coast Guard (5)
      (1) Enforces navigation and custom laws
      (2) Lighthouses
      (3) Life saving stations
   d. National Forest Service (4)
      (1) Forest Patrol
         (a) Equipped with motorcycles—some with aeroplanes
      (2) Watches stationed at high points
         (a) Have range finding devices to find exact location of the fire
      (3) Tries to educate public in the right use of fire

e. United States Department of Labor
   (1) Bureau of Immigration
      (a) Has charge of carrying out immigration laws of the United States
   (2) Bureau of Naturalization
      (a) Work of Americanizing our immigrant population
   (3) Bureau of Labor Statistics
      (a) Reports on labor conditions and labor legislation throughout the country
   (4) The Children's Bureau
      (a) Works for child welfare and tries to get child labor laws enacted
   (5) The Women's Bureau
      (a) Investigates and reports upon conditions affecting women in industry

f. Education a safety measure (1)
   (1) Public school system
   (2) Libraries
   (3) Museums
   (4) Travel

g. Private organizations
   (1) Child Welfare Association
   (2) Consumers' League
   (3) American Federation of Labor
   (4) National Child Labor Committee
   (5) National Safety Council
      (a) A cooperative organization composed of factories, railroads, public service corporations, mines, insurance companies, and technical schools

h. Local Safety Council (2)
   (1) Tries to create an atmosphere of safety in the community
   (2) Carries on various activities which will reduce street accidents, accidents in industry and in the home
   (3) Cooperates with schools, churches, factories and all civic organizations in promoting safety

i. Boys' and Girls' organizations which promote safety
   (1) Boy Scouts
   (2) Girl Scouts
   (3) Junior Safety Patrol
   (4) Junior Safety Council
   (5) Junior Red Cross

II. Activities

III. Outcomes

CHAPTER XIV

SUMMARY, CONCLUSIONS AND APPLICATIONS

Summary of Facts Regarding Safety Education

1. The fact that safeguarding human life against the mounting hazards of modern living conditions is both economically and socially significant was shown by social and economic data secured from statistical reports giving the classification of accidents, frequency and type of accidents, circumstances attending the occurrence of accidents, accidents occurring at various age levels, and estimates of economic and social loss resulting from such accidents.

2. The fact that safety measures should be adapted to local hazards was demonstrated by a social survey of an environment. In this survey were noted the location of the school in its relation to traffic problems, the lack of recreational facilities as aggravating the accident problem, the industrial conditions which might be a menace to the safety of the neighborhood, the hazards induced by the congestion of population, and the prevalence of many nationality groups where inability to understand and interpret the language interfered with an adequate solution of the accident problem.

3. The basis for constructing a program of safety education which would consider the actual and immediate safety needs of a given locality was determined by a survey of pupil experiences. This survey showed accidents which were most common and therefore in greatest need of attention. "Spot maps" made from records of accidents to children and adults within the school boundaries pointed out clearly the acuteness of the traffic problems in the district, the time of day in which accidents were most frequent and therefore the hours when greater precautions for safeguarding the children were necessary. Tables of activities in which children of this school district were engaged at the time various accidents happened indicated wherein specific education was needed.

4. The fact was shown that educational criteria which should determine the content and organization of safety education should

be based on the needs of real life situations, and should consist of experiences so guided and directed that they will function automatically in every day life. Since it is the expressed purpose of the school to give the child desirable and worthwhile experiences, safety education should be a part of any or of all academic subjects in which there is evident relationship. The teacher and the child should draw upon any subject in order to make adequate interpretation of and enrichment for the safety items needed.

6. The itemized safety topics listed may be utilized in the development of safety habits and attitudes. Few and simple habit forming experiences are provided for the lower grades. The recurrence of such experiences in increasingly varied and complex situations are provided for succeeding grade levels.

7. Safety learnings begin in obvious individual welfare and are extended to include the welfare first of the immediate group and later of the less intimate and larger groups in the community. Gradually they include the responsibility of the individual for other individuals in any of these groups of which he is a member. Finally they are extended to the broader social relationships of the world at large.

8. In order that safety learnings may function in subsequent real life situations which are identical or similar to those in which they were acquired, they should be developed in life situations. In order to insure the greatest amount of "carry over" or transfer to situations only slightly similar to those in which they were acquired, safety learnings should be developed in numerous and various situations.

Conclusions of Study

1. This study is an attempt to carry out in practice what is so often advocated in theory, namely, that the course of study should be constructed with reference to local needs.

2. The social and economic data secured are in keeping with modern educational theory which advocates the utilization of all available resources of the community in constructing the course of study. The principle of social need has therefore been operative throughout the study.

3. There is a body of content which contributes specifically to safety education and which takes into consideration the child's

needs, interests and activities and at the same time meets the larger demands of society.

4. The learning experiences in a safety education course include the knowledge, habits and attitudes which are applicable to real life.

5. The objectives of safety education are attained to the degree in which individuals apply them in their lives, feel responsible for the promotion of safety for their associates and realize the civic responsibilities for community safety.

6. The outcomes of safety education shall be measured in the elimination of unnecessary hazards and in the reduction of accidents through the functioning of safety knowledge, habits and attitudes.

7. The safety course of any school must take specific local hazards into account as well as such general hazards as are common to many communities.

8. Some hazards are socially significant without being educationally significant and the mere frequency or seriousness of accidents cannot always be taken as the final criteria of educational significance.

9. The very nature of the problem implies the recurrence of habit forming experiences on successive grade levels and the incorporation of safety thinking and safety acting in other subjects and in typical life situations and activities.

10. It is not assumed that all the items of safety knowledge have been set forth in this study. The techniques are mainly those of investigation, description and illustration which are intended to serve other workers in the field in developing future studies particularly in such "new subjects" as health, citizenship, character training and the like in which tradition has not had time to set a limit nor rigidly to define procedures.

11. In so far as was possible, techniques of scientific curriculum construction were utilized. The detailed tabulation of courses of study in safety furnishes local communities with those safety items found to be generally accepted. The acceptance or rejection of certain topics as well as the amount of stress to be given them depends upon their contribution to the welfare of the individual in the local situation and also upon his intelligent responsibility for the hazards which confront the social group.

12. Grade placement was based primarily upon the frequency of mention of items for each particular grade. This method was selected in order to give teachers safety information in a form which is not only convenient but familiar. The grade limits in the accepted school subjects are purely arbitrary, and are even less justified in the subject of safety education since the safeguarding of life is equally important in all grades. Because of differences in their background of experience, it cannot be assumed that a group of children will have any definite body of safety knowledge or any definite set of dependable safety habits by the time certain grades are reached. The treatment of safety materials therefore becomes spiral rather than a series of graded lessons. For this reason opinions of judges regarding the placement of items were not solicited.

13. Checking of safety items against the objectives of safety education was one criterion used in selecting the list presented. The process is illustrated and applies to one grade only. This restriction to one grade was made for two reasons: because of the spiral treatment of items, a large number appear in the first grade and are then repeated at intervals throughout succeeding grades; and the work is purposely illustrative only. Wholesale acceptance of an evaluated list is not desirable.

Applications of Study

The techniques utilized in this study in developing the content of safety education for an elementary school may be used by

1. Communities wishing to construct a course of study which is designed to meet their specific needs

2. Localities where curriculum construction is based upon the fundamental elements of social life and the resources and limitations of the community are utilized

3. Industries where significent facts and figures are utilized in searching out basic needs which result in reorganization and readjustment

4. Research bureaus which, sensing the demand for economic and social information, furnish material for the continuous revision of the curriculum in accordance with new discoveries of present social and economic needs

5. Those working with curriculum problems in regular sub-

ject-matter fields of Reading, Art, Geography, History, Civics, Language, Nature Study, General Science, Home Economics, Writing, Spelling and Arithmetic who may adopt similar procedures in making their studies contribute to present day living

Nearly all writers upon the curriculum either openly or tactily turn to society as the source of value in deciding the worth of proposed topics. Business utility and social efficiency have already affected our curriculum in demanding that the materials offered not only concern the child's interests and needs, and are adapted to his mental maturity but also fulfill the social and economic demands of society. This exceedingly practical point of view is seen in such studies as: Wilson's "Social and Business Usage of Arithmetic"; Charters' "Department Store Arithmetic"; Ayres' "Spelling Vocabularies of Personal and Business Letters"; Horn and Packer's vocabulary studies for young children; Rugg and Hockett's "Objective Studies in Map Location" based upon significant statistical data; and Harap's "Curriculum Making Applied to the Economic Aspects of Life". In safety education, as in the subjects reported above, social need determines the content and the validity of the curriculum.

APPENDIX A

INFORMAL TESTING OF THE TEACHING OF SAFETY UNITS

Procedure. To show that safety may be taught in connection with the regular work of an average school, arrangements were made with the principal at the school studied for some teaching of safety to be done under the direct observation of the writer. This teaching was not to interfere with the school work as generally carried on. In other words a normal school situation was provided and the writer was granted permission to view it.

The cooperation of one of the eighth grade teachers was secured. One English period a day for a period of two weeks was devoted to the subject of safety. There was no variation in the class procedure—two days a week being devoted to oral English and three days a week to written English according to the plan of instruction in the school. The writer requested that in place of the topics usually discussed, safety topics be substituted. Conferences were held with the teacher and it was decided to teach two units of safety—one on Fire Prevention and the other on the Water Supply of New York City. A week was devoted to each unit.

Informal Testing. Before the teaching was undertaken, informal tests were given to see what safety knowledge the pupils had concerning fire prevention and the water supply of their own city. The tests were of the multiple choice and true-false type, constructed and presented by the writer. Care was taken to collect all the papers after the test was given so that the information requested on the test blanks would in no way influence the teaching. The tests were given on February 1, 1926, at the beginning of the ten o'clock period, which was to be devoted to safety as taught in connection with English. The same tests were again given February 11, 1926, at the close of the period. The pupils were not aware that the tests were to be given at any time. The very severe weather had interfered with the attendance and for this reason many of the pupils took only one test. The scores for those who took both tests are given in the following table.

TABLE 1A. INDIVIDUAL SCORES ON INFORMAL TEST OF SAFETY INFORMATION

	Scores on First Test	Scores on Second Test	Improvement	
			Plus	Minus
1. Anthony B.	28	36	8	..
2. Peter B.	36	36	..	..
3. Joseph C.	31	35	5	..
4. Joseph C.	36	38	2	..
5. Arnold C.	36	33	..	3
6. William D.	36	37	1	..
7. Frank D.	21	39	18	..
8. Frank E.	36	37	1	..
9. Bennie F.	36	35	..	1
10. Thomas F.	35	37	2	..
11. Johnson F.	33	37	4	..
12. David F.	40	41	1	..
13. John G.	21	23	2	..
14. Sam G.	27	37	10	..
15. Louis G.	32	37	5	..
16. Edward H.	34	30	..	4
17. Joseph H.	38	37	..	1
18. Frank G.	34	36	2	..
19. James I.	37	40	3	..
20. Clarence J.	38	39	1	..
21. Vincent K.	33	34	1	..
22. Joseph L.	35	39	4	..
23. Joseph McC.	36	41	5	..
24. Peter M.	38	39	1	..
25. Ralph P.	22	33	11	..
26. Vincent P.	32	34	2	..
27. Rocco P.	16	25	9	..
28. Bernard S.	35	39	4	..
29. Phoenix S.	37	37	..	..
30. Joseph V.	38	34	..	4
31. David W.	38	43	5	..

Results of Informal Tests. Because of the smallness of the group, the checking method on the number right instead of the number right minus the number wrong was used. It will be noticed that higher scores were produced on the second presentation of the test in all but seven cases. Five of these lowered their scores and two made the same score each time.

INFORMAL TEST "A" OF SAFETY INFORMATION

You will find listed here some tests to see if you remember some of the things you have been taught about safety. You will be given a few minutes to answer all the questions. Read each one through and put a mark like this ($\surd$) before the one that you think best answers the question.

1. In crossing the street one should
   a. Look up, go to the middle of the street, then look down
   b. Look left, go to the middle of the street, then look right
   c. Look to see if others are crossing
2. Fire engine should be given the right of way because
   a. They are too heavy to turn out in traffic
   b. They are going too fast to stop
   c. They must reach their destination quickly
3. The quickest and best way to call the fire department is to
   a. Run and shout
   b. Ring a fire alarm
   c. Telephone
4. We should stay away from houses where a sign says
   a. Throw no rubbish
   b. Mail
   c. Smallpox
5. If a fire broke out in school we would
   a. March out quickly
   b. Rush out quickly
   c. Run to the nearest fire alarm box
6. Ashes from a stove or furnace should be put in a
   a. Wooden box
   b. Card board box
   c. Metal box
7. In case hot grease is on fire one should
   a. Throw on water
   b. Smother with rug or blanket
   c. Throw on sand, salt or flour
8. Firemen are sent to theatres before every performance to see that
   a. The curtain is in condition to go up
   b. That required regulations have been fulfilled
   c. That the doors are ready to open
9. Floors under stoves should have metal sheeting because
   a. It is strong enough to hold up the stove
   b. Protects the flooring
   c. Is easy to keep clean
10. Oily rags should be kept in
    a. Tin cans
    b. Boxes
    c. Trash barrels
11. The best sign for a railroad crossing is
    a. Look out for the cars
    b. Railroad Crossing
    c. Stop, Look, Listen
12. We should cross the street
    a. In front of our home
    b. In the middle of the block
    c. At the crossing
13. Garbage should be put in
    a. Large metal cans with covers
    b. Card board boxes that can be destroyed
    c. Open cans
14. Near a water hydrant a sign says
    a. Park here
    b. Do not park here
    c. Keep moving

15. A red light means
    a. Go ahead
    b. Danger
    c. Hurry
16. The best way to clean streets is by
    a. Sprinkling
    b. Sweeping
    c. Washing
17. One should not look for a gas leak with a lighted match because
    a. The match will not give sufficient light
    b. The match will burn out too quickly
    c. It might cause an explosion
18. Bonfires should
    a. Be made on a calm day
    b. Should never be made
    c. Be made on a stormy day

INFORMAL TEST "B" OF SAFETY INFORMATION

Read through these statements and put a T before the ones that you think are *True* and an F before the ones that you think are *False.*

1. Fire alarm systems have always been in use
2. There is no fire protection in rural communities
3. The problem of fire prevention in the city is easily solved
4. Careless use of matches is probably the chief cause of fires
5. More fires occur in winter months than any time during the year
6. In this day and age all people use the so called "safety match"
7. Never start a fire with kerosene or gasoline
8. Oily rags can start a fire without coming in contact with fire or lighted match
9. All rubbish should be burned
10. Electric light bulbs should never be covered with paper shades
11. Rubbish should never be burned in an open fire place
12. Escaping gas is sometimes a cause of fire
13. Cleaning articles with gasoline may produce an explosion
14. Cities are solely dependent upon the local fire department for help in preventing fires
15. Electric irons and electric heating appliances should be disconnected when not in use
16. Milk bottles, food and flower boxes should never be placed on the fire escape
17. When a fire is discovered always pour on water
18. If your clothing catches on fire a rug is the only thing to wrap around yourself
19. To leave a burning building the fire escape is the only means of escape
20. Celluloid toys should always be kept away from the fire
21. The purest water is found in wells
22. In colonial days each village furnished its own water supply
23. The city water supply is often wasted
24. The water meter tells you how much water you have used
25. Water is cheap
26. Filtration is the only form of purification

APPENDIX B

COURSES OF STUDY EXAMINED AND USED IN TABULATIONS

Allentown, Pennsylvania. "Safety Instruction for the Allentown Public Schools." Allentown, Board of Education, 1923. 26 pp. (Issued in typewritten form)

Birmingham School Safety Committee. "An Outline of Safety Education for Elementary Schools and Junior Safety Council Organizations." Birmingham, Alabama, Birmingham Safety Council, 1925. 46 pp. (pamphlet)

Cleveland, "Safety Instruction Manual for the Cleveland Public Schools." Grades 1-4. Cleveland Board of Education, 1921. 35 pp. (pamphlet)

Cincinnati, "Program of Safety Education in Cincinnati Public Schools"

Detroit, "Course of Study in Safety Education," Detroit Board of Education, 1920. 31 pp. (pamphlet) prepared by Miss Harriet E. Beard. Supervisor of Safety. Detroit Public Schools

Fort Wayne, Indiana. "Course of Study prepared by the Teachers Committee of the Fort Wayne Public Schools"

Hibbing, Minn. "Course of Study in Safety" (pamphlet)

LaCrosse, Wis. Advisory Council of Teachers. "Safety and Fire Prevention for the LaCross Public Schools." (Bulletins 2 and 3) LaCrosse Board of Education, 1923. 16 pp. (pamphlet)

Louisville. "A Tentative Safety Course." Louisville Board of Education, 1925. 137 pp. (pamphlet)

"Middleton Course of Study"—mimeographed sheets sent out by Superintendent of Schools. Nashville, Safety Instruction for the Schools of Davison County (pamphlet)

Oregon, "Course of Study for Safety Education in Oregon Schools." Salem, State Department of Education, 1921. 62 pp. (pamphlet)

Pawtucket Teachers Safety Council. "Safety Training for Children." Pawtucket Public Schools, 1925. 91 pp. (pamphlet)

Providence Safety Council, School Committee, "A Suggested Course in Safety Education." Grades 1-6. Providence Safety Council, 1925. 33 pp. (pamphlet)

Southern California Public Safety Department, "Safety, a School Project." Los Angeles, Automobile Club of Southern California, 1923. 74 pp. (pamphlet)

Schenectady, Department of Public Instruction. "Outlines for Safety Instruction in Public Schools." Schenectady Department of Public Instruction, 1924. 42 pp. (pamphlet)

Springfield, Mass. Public Schools "A Tentative Course in Safety Education." Grades 1-6. Springfield Public Schools, 1925. 40 pp. (mimeographed form)

COURSES OF STUDY IN SUBJECT MATTER FIELDS WHICH WERE EXAMINED

Subject	Name of Course	Date	Grades	Type of Course
Geography	Okmulgee, Okla.	.....	4–6	City General
Geography	Trenton, N. J.	1922	3–6	Separate
History and Civics	Los Angeles, Cal.	1924	K–2	City General
History and Civics	Los Angeles, Cal.	1924	3–4	City General
History and Civics	Los Angeles, Cal.	1924	5–6	City General
History and Civics	Berkeley, Cal.	1922	K–6	Separate
General Science	Detroit, Mich.	1922	1–2	Separate
General Science	Trenton, N. J.	1922	K–6	Separate
General Science	Berkeley, Cal.	1921	K–6	Separate
Industrial Arts	St. Cloud, Minn.	1924	1–6	General Art
Industrial Arts	Speyer School, N.Y.	1913	K–8	Teachers College
Language and Grammar	Long Beach, Cal.	1924	1	Separate
Language and Grammar	Long Beach, Cal.	1924	2	Separate
Language and Grammar	Long Beach, Cal.	1924	3	Separate
Reading	St. Cloud, Minn.	1924	1–6	Separate
Reading	Elizabeth, N. J.	1924	K–6	City General
Literature	Des Moines, Iowa	1924	K–6	Separate
Literature	Kansas City, Mo.	....	K–7	Separate
Civics	Berkeley, Cal.	1922	K–6	Separate
Civics	Indianapolis, Ind.	1922	1–8	Separate

COURSES OF STUDY EXAMINED BUT NOT TABULATED (NOT GRADED COURSES)

Omaha Safety Council Public School Committee. "An Outline of Safety Instruction for Junior Safety Council Organization for Omaha Elementary Schools." Omaha Safety Council, 1925. 28 pp. (pamphlet) (Is not a graded course. Contains merely suggested projects and topics for school and home safety)

Bayonne, N. J. "Course in Safety." (Contains statements of the need for safety teachings)

Chicago Board of Education. "Safety Education, a Plan Book for the Elementary Schools." Chicago Board of Education, 1923. 160 pp. (pamphlet) (Lists activities by months. Seasonal hazards stressed. Suggests methods of instruction. Not graded)

Whiting, Ind. Public Schools. "Safety Instruction for the Whiting Schools." Whiting School Department, 1921. 20 pp. (pamphlet)

Kansas City Safety Council, Children's Activities Committee. "An Outline of Safety Instruction and Junior Safety Council Organization for Kansas City Elementary Schools." Kansas City, Mo. 1924. 33 pp. (pamphlet) (Suggested topics for class discussion)

TEXT BOOKS IN CIVICS EXAMINED

Author	Title	Date	Total Pages
Hughes, O.	Text book in Citizenship	1923	445
Levis, Ella Cannon	Citizenship, a Practical text-book in Community Civics.	1923	438
Finch, Chas. E.	Everyday Civics	1921	302
Blatchley, F. F., and Oatman, Meriam E.	Everyday Citizenship	1922	234
Ames, E. W., and Eldred, A.	Community Civics	1922	358
Adams, E. W.	A Community Civics	1920	358
Hill, H. C.	Community Life and Civic Problems	1922	528
Dunn, Arthur W.	Community Civics for City Schools	1921	549
Nida	City, State and Nation	1917	307
Woodburn, Jas. A., and Moran, Thos. F.	Citizenship and the Republic	1924	439

TEXTBOOKS IN HOME ECONOMICS EXAMINED

Author	Title	Date	Total Pages
Greer, Carlotta C.	Textbook of Cooking	1915	387
Kinne and Cooley	Foods and Household Management	1916	381
Wellman	Food Study	1917	296
Williams and Fisher	Theory and Practice of Cooking	1913	318
Morris, Josephine	Household Science and Art	1912	219

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VITA

The author of this dissertation, Ruth Streitz, was born at North Platte, Nebraska, September 19, 1892. Her elementary education was received in the public schools of North Platte, Nebraska. Secondary education was received from the Bristol School, Washington, D. C., and from Brownell Hall, Omaha, Nebraska, from which she graduated in 1911. She was graduated from the Pestalozzi-Froebel Kindergarten Teachers College, Chicago, Illinois, 1914; received the degree of Bachelor of Philosophy from the University of Chicago, 1921; and the degree of Master of Arts also from the University of Chicago, 1922. Graduate work was undertaken at the University of Wisconsin, 1919-1921, and at the University of Illinois, 1922-24, where for two years she was Associate in the Bureau of Educational Research and an instructor in the College of Education. She was also a graduate student at Teachers College, Columbia University, 1924-1926, where she was awarded the following scholarships: (1) the fellowship for research in safety education, (2) graduate scholarship, (3) research scholarship, and (4) the Dean's scholarship.

Publications for which she is responsible are as follows:

(1) "A Comparative Study of Four Group Scales for Primary Grades"
(2) "Teachers Difficulties in Arithmetic and Their Correctives"
(3) "Teachers Difficulties in Reading and Their Correctives"
(4) "Provisions for Gifted Children"
(5) "Provisions for Exceptional Children in 191 Illinois Cities"
(6) "Educational Diagnosis"